

Fans and Heatsinks

Fans



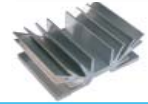
| 1

Fan Accessories



| 12

Heatsinks



| 14

Thermal Interface Materials



| 29

Peltiers Modules



| 30

Bearing Systems

Sleeve Bearings

When low cost is priority for an application, sleeve bearing fans are the right choice. Sunon uses sintered sleeve bearings with a special deep lubrication utilizing hydrodynamic effects. This guarantee a high operating period with minimum noise. Sunon fans with sleeve bearings have been tried and tested in numerous applications millions times over. The test series, even with high ambient temperatures, have confirmed an average life span of approx. 50 000 hours.

Sleeve bearing fans are ideally suited for vertically mounted positions, since the operating life expectancy in horizontally mounted positions can be distinctly reduced in comparison to specifications. For horizontal installation, higher capacity, demands and endurance characteristics, preference should be given to fans with VAPO bearing and MAGLEV motor, or fans with ball bearing.

Ball Bearings

Ball bearings are ideal for use in portable devices with various mounting angles. However, caution should be used to prevent the product from falling and impact damaging the ball bearing, which could lead to noise and shortened product life-time.

Fans with ball bearing are available for high capacity requirements such as operating temperatures up to 70°C, specific installations and extended service intervals.

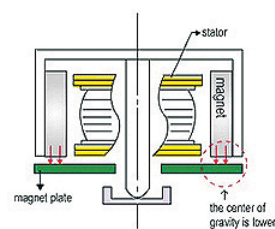
MagLev Operating Principle and VAPO Bearings

The patented MagLev design is based on magnetic principles and forces that not only propel the fan, but also ensure the stable rotation over its entire 360° movement. Utilizing the attraction of the magnetic levitation force, MagLev Motor Fans eliminate the problems of wobbling and shaking frequently seen on traditional motor fans. With this new technology, the impeller of MagLev Motor Fans is suspended in the air during rotation so that the shaft and the bearing do not come into direct contact with each other to create friction. The result is a new and improved fan with a low noise level, high temperature endurance, and long life.

MagLev System

Traditional fans rotate by the principle of like-pole repulsion. As there is no control exerted over blade trajectory, the fan blades tend to produce irregular shuddering and vibrations during operation. After long-term use, the shaft will cause severe abrasion on the bearings, distorting them into a horn shape. The worn-out fan then starts to produce mechanical noises and its life span is shortened as well. The unique feature of Sunon MagLev Motor Fans is the path of the fan blade is magnetically controlled by Sunon's patented MagLev System during operation. The result shows that no matter how the fan is oriented, there is no friction caused by the shaft and the bearing as they have no direct contact. This means that the characteristic abrasion noises of worn-out components are not produced, and also allows a life span of 50,000 hours or even longer at room temperature.

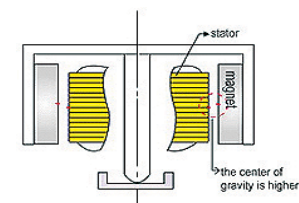
Comparison Between Sunon MagLev Fan and Traditional Fan



SUNON MagLev Fan

Possesses 3 important factors: the magnet plate, the magnet and the stator

The resulting interaction between the magnet plate and the magnet pulls the rotor downward in a full 360°. Through the lower center of gravity, the rotor runs stably in a consistent orbit.



Traditional Fan

2 factors: the magnet and the stator. The conventional fan utilizes a deviating magnetic center to attract the rotor downwards. This kind of technology causes the rotor to vibrate violently due to both the lack of a consistent orbit and a deviation of the magnetic center.



AC Fans

AC AXIAL FAN

SUNON Axial AC Fan, equipped a shaded-pole motor, die-cast aluminum frame, and UL 94V-0 rated injection molded non-flammable thermoplastic impeller, is the most reliable AC Fan in the field. SUNON AC Fan is available in both life-lubricated ball bearing system and oil-impregnated sintered sleeve bearing system to meet the diverse needs of the market.

Applications: Game Machine, Copy Machine, Medical Equipment, Vending Machine, Packing Equipment, Air Conditioner, Heater, Manufacturing Equipment & Electric Products.

ALVEOLATE SYSTEM

The AC Alveolate motor supplies a high air volume with a low noise level, a system of reducing the temperature and two-speed operation. Counter to traditional models, the Sunon AC coil motor has Alveolate-wire wrapping as well as a condenser start-up guaranteeing low-temperature operation. Moreover, thanks to the reduction in electrical power consumption, the temperature of cellular motor operation is low, producing little heat.

With regard to the internal temperature of the motor (in operation) being 70° C with traditional models, Sunon's new cellular alternating motor constantly stays at 50°C, guaranteeing high reliability and stability. This makes it possible to extend the useful life of the product to over 50,000 hours.

To ensure practical useful life and sound performance of the Sunon product, the AC Alveolate fan is offered with a designed "Thermal limit". When the coil temperature exceeds a limit of 110° C, the thermal limit ensures protection and safety

by automatically cutting the electricity supply. This stops the fan rotating until the temperature returns to around 90°C, then the fan starts working again. Moreover, the fan blades are designed to operate silently and supply a high air flow with a low noise level. Responding to market demands, the Sunon AC Alveolate fan is fitted with a third wire, which allows customisation to personal

SUNON AC Fans Marking

Example: SF 23080A - 2083 HSL

Code	Feature	Description
SF23080A	Series	SFxxx, DPxxx, *Axxx, **MAxxx
2	Power supply	1=115VAC, 2=230VAC
08	Frame size	17=172mm, 12=120mm, 09=92mm, 08=80mm
3	Frame depth	2=25mm, 3=38mm, 5=51mm
H	Speed	X=Super Air, H=High, M=Medium, L=Low
S	Bearing	S=Sleeve, B=Ball
L	Terminal	T=fastons 2,8x0,3mm, L=wires

* Alveolate

**VAPO Bearing

DC Fans

Structural Configuration DC Fans

Designed as electronically converting direct current motor with Vapo bearing, sintered sleeve bearing system, or precision ball bearing system with additional magnetic levitation force (MagLev), both the frame and impeller are made from filled PBT thermoplastic.

DC Fans with Motor Protection

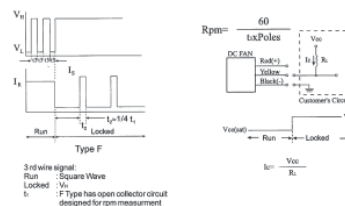
Sunon DC fans from KDE series are also available with improved motor protection (KDE_A). The motor protection is achieved through an IC developed by Sunon. In the event of failure, the motor is switched off for a short time.

The IC periodically allows the motor to restart until it resets itself. Such problems as foreign objects blocking the motor can be automatically corrected by the protective motor function.

The circuit prevents any further excessive heating up of the motor coils in the event of an error occurring. The motor protection is included in all DC fans with the code letter "A" in classification.

DC Fans with Output Signal

All Sunon DC fans are available with the option of an output signal, which is transmitted out by a third connecting wire. The connection enables the fan to be monitored and controlled. Therefore, in the event of critical operating conditions, like a blocked fan wheel over the output signal, an alarm can be released. Usually the output is lined out through an open collector terminal of a transistor and must be further wired in the application via a resistor in order to receive, f.e. TTL levels. The logic levels are vary with the individual nominal voltages.



SUNON DC Fans Marking

Example: KD 1208 PTS 1.13

Code	Feature	Description
KD	Series	KD=axial DC ventilator KDE=axial DC ventilator with VAPO bearing GM = GreenMotor (low power consumption)
12	Power supply	05=5VDC, 12=12VDC, 24=24VDC
08	Frame size	12=120mm, 09=92mm, 08=80mm, 06=60mm, 55=55mm, 05=52mm, 05=50mm, 45=45mm, 04=40mm, 35=35mm, 03=30mm, 02=25mm, 01=20mm, 17=17mm
P	Frame material	P=standard-thermoplastic, V=Venturi
T	Frame depth	M=38mm, T=25mm, K=20mm, H=15mm, F=10mm, D=8mm, E=6mm
S	Bearing	S=Sleeve, B=Ball, V=VAPO (only KDE)
1	Speed	X=Super Air, 1=High, 2=Medium, 3=Low
13	Motor	Motor model

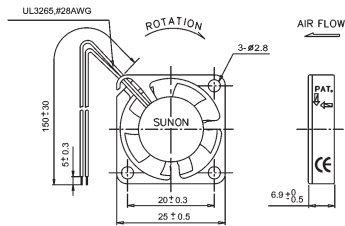
Packing

Fan Dimensions	Pcs in box
40x40 mm	400 (2x200)
50x50 mm	200 (2x100)
60x60 mm	100 (2x50)
80x80 mm	50 (2x25)
92x92 mm	50 (2x25)
120x120 mm	40 (2x20)
171x151 mm	12 (1x12)

SUNON Axial DC Fans

GM Series - Sunon's Green Motor has a lower power consumption and reduced internal temperature rise which enhances service life. To special order some versions are available to meet 70°C ambient operating temperature.

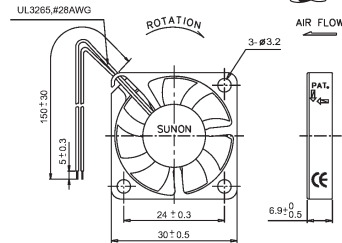
25x25mm



Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
GM 0502 PEV2-8	6	5	0,08	0,4	3,74	23	10000	VAPO	5
GM 0502 PFV2-8	10	5	0,08	0,4	5,09	16	10000	VAPO	7,5
GM 1202 PFV2-8	10	12	0,038	0,5	5,1	16	10000	VAPO	7,5

Part No.	Ord.No.
o GM 0502 PEV2-8	64589
o GM 0502 PFV2-8	59644
o GM 1202 PFV2-8	57071

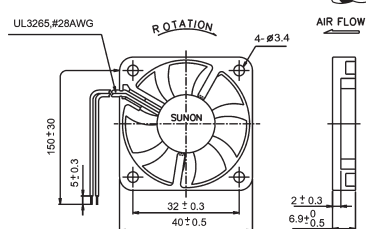
30x30mm



Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
GM 0503 PEV2-8	6	5	0,08	0,4	6,29	24	7500	VAPO	6
GM 0503 PFV1-8	10	5	0,14	0,7	9,34	23	9500	VAPO	8,6
GM 1203 PFV2-8	10	12	0,042	0,5	7,82	20	8000	VAPO	8,5

Part No.	Ord.No.
o GM 0503 PEV2-8	57077
o GM 0503 PFV1-8	59645
o GM 1203 PFV2-8	56931

40x40mm

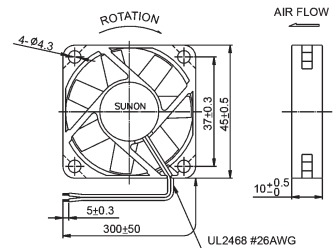


Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
GM 0504 PEV2-8	6	5	0,07	0,4	6,29	26	6000	VAPO	7,5	
KDE 0504 PFV2.11A	10	5	0,14	0,7	11,89	27	5800	VAPO	17	
KD 1204 PFS2.11	10	12	0,092	1,1	11,89	27	5800	Sleeve	17	
KDE 1204 PFV1.11A	10	12	0,09	1,1	13,59	32	7000	VAPO	17	
KDE 1204 PFV1.11AF	10	12	0,09	1,1	13,59	32	7000	VAPO	17	
KDE 1204 PFV2.11A	10	12	0,08	1,0	11,89	27	5800	VAPO	17	3wires
HA 40101V4	10	12	0,065	0,8	9,00	18,2	4500	VAPO	14,7	silent
KDE 0504 PKV2A	20	5	0,12	0,6	13,08	21	6200	VAPO	30	
KD 1204 PKS2	20	12	0,063	0,8	13,08	21	6200	Sleeve	31	
KDE 1204 PKV2A	20	12	0,05	0,6	13,08	21	6200	VAPO	31	
KDE 1204 PKV1AF	20	12	0,07	0,8	15,12	21	7200	VAPO	31	3wires
HA 40201V4	20	12	0,046	0,6	9,35	12,8	4700	VAPO	30,6	

KD 2404 PKS2	20	24	0,04	0,8	13,08	21	6200	Sleeve	31
KDE 2404 PKV2A	20	24	0,033	0,8	13,08	21	6200	VAPO	31

Part No.	Ord.No.
o GM 0504 PEV2-8	57944
S KDE 0504 PFV2.11A	55896
S KD 1204 PFS2.11	29710
S KDE 1204 PFV1.11A	57763
o KDE 1204 PFV1.11AF	57481
S KDE 1204 PFV2.11A	8967
o HA 40101V4	70193
o KDE 0504 PKV2A	56923
S KD 1204 PKS2	65470
o KDE 1204 PKV2A	52870
o KDE 1204 PKV1AF	56053
o HA 40201V4	70194
o KD 2404 PKS2	8539
o KDE 2404 PKV2A	59518

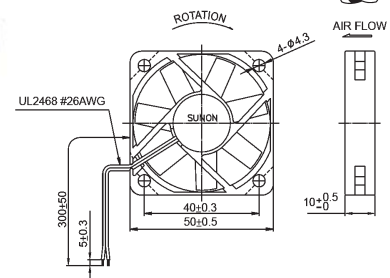
45x45mm



Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
KD 1245 PFS2.11	10	12	0,97	1,2	15,53	27	5000	Sleeve	27
KDE 1245 PFV2.11A	10	12	0,08	1	15,63	27	5000	VAPO	37

Part No.	Ord.No.
S KD 1245 PFS2.11	4865
S KDE 1245 PFV2.11A	8966

50x50mm



Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
KD 1205 PFS2.11	10	12	0,11	1,2	18,7	26	4300	Sleeve	20	
KDE 1205 PFV1.11A	10	12	0,11	1,3	22,09	30	5200	VAPO	20	
KDE 1205 PFV1.11AF	10	12	0,11	1,3	22,09	30	5200	VAPO	20	3wires
KDE 1205 PFV2.11A	10	12	0,09	1,1	18,69	26	4300	VAPO	20	
KD 1205 PHB2	15	12	0,08	0,9	22,08	30	4700	Ball	38	
KD 1205 PHS2	15	12	0,08	1	22,08	29	4700	Sleeve	38	
KDE 1205 PHV2A	15	12	0,05	0,7	22,08	29	4700	VAPO	38	
KD 2405 PHB2	15	24	0,05	1,3	22,08	30	4700	Ball	29	
KD 2405 PHS2	15	24	0,05	1,3	22,08	29	4700	Sleeve	39	
KDE 2405 PHV2A	15	24	0,04	1	22,08	29	4700	VAPO	39	

Part No.	Ord.No.
o KD 1205 PFS2.11	4713
o KDE 1205 PFV1.11A	64456
o KDE 1205 PFV1.11AF	64255
S KDE 1205 PFV2.11A	8965
o KD 1205 PHB2	69481
o KD 1205 PHS2	49897

SUNON Axial DC Fans

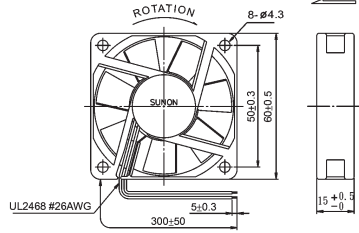
(continued)

50x50mm

o KDE 1205 PHV2A	69485
o KD 2405 PHS2	64364
o KD 2405 PHB2	49879
o KDE 2405 PHV2A	69482



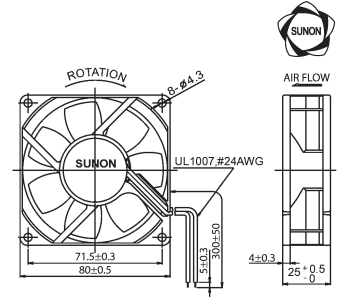
60x60mm



Part No.	Width [mm]	Max. V	Max. I [A]	Max. Power [W]	Air Flow [m3/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
KD 0506 PHS2	15	5	0,19	0,9	30,58	31	3800	Sleeve	41	
KD 1206 PHB1	15	12	0,15	1,9	35,68	37	4300	Ball	42	
KD 1206 PHS2	15	12	0,09	1,1	30,58	21	3800	Sleeve	42	
KDE 1206 PFV2A	15	12	0,08	1	23,11	25	3500	VAPO	29	
KDE 1206 PHV2A	15	12	0,08	1	30,58	31	3800	VAPO	42	
KD 2406 PHS2	15	24	0,06	1,3	30,58	31	3800	VAPO	44	
KD 1206 PKS1	20	12	0,154	1,9	39,08	33,5	4500	Sleeve	52	
KDE 1206 PKV1A	20	12	0,15	1,8	39,08	33,5	4500	VAPO	52	
KD 1206 PTB1	25	12	0,15	1,8	39,93	34,5	4500	Ball	55	
KD 1206 PTS1	25	12	0,15	1,8	39,93	33,5	4500	Sleeve	55	
KD 1206 PTS3.13	25	12	0,09	1,1	28,88	25	3400	Sleeve	73	
KDE 1206 PTV1A	25	12	0,14	1,7	39,93	33,5	4500	VAPO	55	
KDE 1206 PTV2A	25	12	0,07	0,8	32,79	29	3800	VAPO	55	
KDE 1206 TVX.AF	25	12	0,23	2,8	45,87	36,5	5200	VAPO	55	3wires
HA 60251V4	25	12	0,06	0,7	23,45	13,8	2500	VAPO	41,5	silent
KD 2406 PTB1	25	24	0,085	2	39,93	34,5	4500	Ball	56	
KD 2406 PTS1	25	24	0,087	2,1	39,93	33,5	4500	Sleeve	56	

Part No.	Ord. No.
s KD 0506 PHS2	5551
o KD 1206 PHB1	9360
s KD 1206 PHS2	32989
s KDE 1206 PFV2A	8964
s KDE 1206 PHV2A	8963
o KD 2406 PHS2	44733
s KD 1206 PKS1	48762
o KDE 1206 PKV1A	8962
s KD 1206 PTB1	7219
s KD 1206 PTS1	32990
s KD 1206 PTS3.13	4063
s KDE 1206 PTV1A	8961
s KDE 1206 PTV2A	55742
o KDE 1206 PTVX.AF	64828
o HA 60251V4	70195
o KD 2406 PTB1	55898
s KD 2406 PTS1	4446

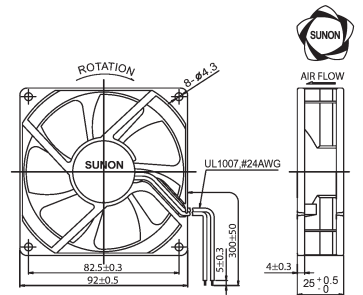
80x80mm



Part No.	Width [mm]	Max. V	Max. I [A]	Max. Power [W]	Air Flow [m3/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
KD 1208 PTB1.13	25	12	0,14	1,7	69,66	35	3100	Ball	80	
KD 1208 PTB1.13F	25	12	0,14	1,7	69,67	35	3100	Ball	80	
KD 1208 PTS1.13	25	12	0,15	1,8	67,96	33	3000	Sleeve	80	
KD 1208 PTS3.13	25	12	0,09	1,1	52,67	26	2300	Sleeve	80	
KDE 1208 PTV1.13A	25	12	0,13	1,6	67,96	33	3000	VAPO	80	
KDE 1208 PTV3.13AF	25	12	0,09	1,1	52,67	25	2300	VAPO	80	3wires
PMD 1208 PTV2-A	25	12	0,34	4,1	93,4	44	4300	VAPO	100	
HA 80251V4	25	12	0,066	0,8	40,27	22,1	2000	VAPO	62,4	silent
KD 2408 PTB1.13A	25	24	0,07	1,7	69,66	35	3100	Ball	83	
KD 2408 PTS1.13A	25	24	0,07	1,7	67,96	33	3000	Sleeve	83	
KD 2408 PTS3.13A	25	24	0,04	1	52,67	26	2300	Sleeve	83	
KD 2408 PTSX-6A	25	24	0,206	4,9	78,15	36	3600	Sleeve	100	

Part No.	Ord. No.
s KD 1208 PTB1.13	4581
s KD 1208 PTB1.13F	7931
s KD 1208 PTS1.13	4061
s KD 1208 PTS3.13	20707
s KDE 1208 PTV1.13A	56514
s KDE 1208 PTV3.13AF	56761
s PMD 1208 PTV2-A	68965
o HA 80251V4	70196
s KD 2408 PTB1.13A	3486
s KD 2408 PTS1.13A	2849
s KD 2408 PTS3.13A	5957
o KD 2408 PTSX-6A	69480

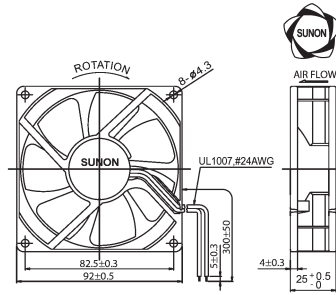
92x92mm



Part No.	Width [mm]	Max. V	Max. I [A]	Max. Power [W]	Air Flow [m3/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
KD 1209 PTB1.13	25	12	0,16	1,9	82,25	35	2800	Ball	95	
KD 1209 PTS1.13	25	12	0,16	1,9	83,25	34	2800	Sleeve	95	
KD 1209 PTS3.13	25	12	0,1	1,2	66,26	28	2200	Sleeve	95	
KDE 1209 PTV2.13A	25	12	0,12	1,4	75,60	32	2500	VAPO	95	
KDE 1209 PTV3.13AF	25	12	0,08	1	66,26	28	2200	VAPO	95	3wires
HA 92251V4	25	12	0,073	0,9	47,7	17,7	1700	VAPO	69,7	silent
KD 2409 PTB1.13A	25	24	0,08	1,9	83,25	35	2800	Ball	100	
KD 2409 PTS1.13A	25	24	0,08	1,9	83,25	34	2800	Sleeve	100	

Part No.	Ord. No.
s KD 1209 PTB1.13	6245
s KD 1209 PTS1.13	4267
s KD 1209 PTS3.13	27090
s KDE 1209 PTV2.13A	56332
o KDE 1209 PTV3.13AF	69479
s KD 2409 PTB1.13A	8303
s KD 2409 PTS1.13A	5526
o HA 92251V4	70197

120x120mm



Part No.	Width [mm]	Max. V	Max.I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
KD 1212PTB1-6A	25	12	0,31	3,7	152,9	44,5	3100	Ball	200
KD 1212 PTS1-6A	25	12	0,4	4,8	141,51	44	3000	Sleeve	205
HAC0251S4	25	12	0,155	1,9	93,4	29,6	1600	Sleeve	99
KD 2412 PTB1-6A	25	24	0,18	4,3	152,9	44,5	3100	Ball	200
KD 1212 PMB1.13A	38	12	0,525	6,3	225,5	43,7	2650	Ball	248
KD 1212 PMB1-6A	38	12	0,52	6,2	183,49	42	3100	Ball	326
PMD 1212 PMB1A	38	12	1,6	19,2	322,8	54	4200	Ball	330
KD 2412 PMB1.13A	38	24	0,27	6,5	225,5	43,7	2650	Ball	249
KD 2412PMBX-6A	38	24	0,28	6,7	203,87	46,5	3150	Ball	326
KD 2412PMS1-6A	38	24	0,28	6,7	181,79	41	3000	Sleeve	326

Part No.	Ord.No.
S KD 1212 PTB1-6A	9068
S KD 1212 PTS1-6A	4583
O HAC0251S4	70198
O KD 2412 PTB1-6A	59756
O KD 1212 PMB1.13A	62729
S KD 1212 PMB1-6A	7932
S PMD 1212 PMB1A	69472
O KD 2412 PMB1.13A	69478
O KD 2412 PMBX-6A	8436
S KD 2412 PMS1-6A	3765

SUNON Axial DC Fans

EE, ME New Series

With the introduction of the MagLev technology, Sunon is offering the best optimised performance on the long-term, at the low noise level and attractive prices.

Sunon now goes one step further with the introduction of the EE (ball and slide bearing) and ME (Vapo) series.

These series are designed and engineered to maximise the air flow and the fan operating life time. Incorporating highly precise components and new impeller design, this series offers you the best compromise between quality and price.

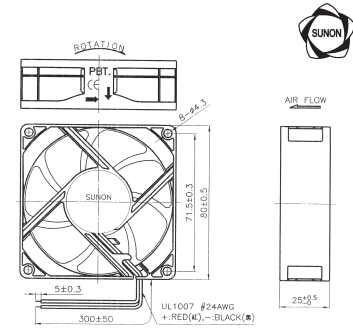


Marking System for EE, ME series

Example: EE80251S1-0000-A99

Code	Feature	Description
EE	Serie	EE=axial DC ventilator with sleeve or ball bearing ME=axial DC ventilator with VAPO bearing
80	Dimension	80=80mm, 92=92mm, C0=120mm
25	Frame depth	25=25mm, 38=38mm
1	Power supply	0=5VDC, 1=12VDC, 2=24VDC, 3=36VDC, 4=48VDC
S	Bearing	V=VAPO (serie ME), B=Ball, S=Sleeve
1	Speed	X=super Air, 1=High, 2=Medium, 3=Low
0000	Customer Code	
A99	Function Code	999= NO AUTO RESTART, no 3rd wire A99= AUTO RESTART, no 3rd wire C99= NO AUTO RESTART, with 3rd F-wire G99= AUTO RESTART, with 3rd F-wire

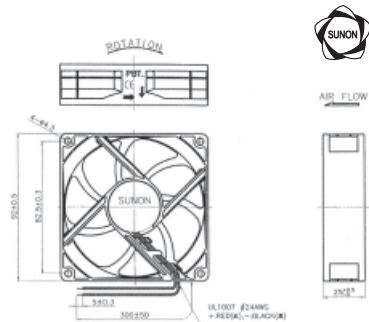
80x80mm



Part No.	Width [mm]	Max. V	Max.I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
EE80251S1-A99	25	12	0,145	1,7	69,7	33	3200	Sleeve	75
EE80251S3-999	25	12	0,09	1,1	56,1	28	2600	Sleeve	75
EE80251B1-A99	25	12	0,145	1,7	69,6	33	3200	Ball	75
ME80251V1-A99	25	12	0,145	1,7	69,7	33	3200	VAPO	77
ME80251V2-999	25	12	0,12	1,4	62,9	30	2900	VAPO	77
ME80251V3-999	25	12	0,09	1,1	56,1	28	2600	VAPO	77

Part No.	Ord.No.
O EE80251S1	70322
S EE80251S3	70324
S EE80251B1-A99	77361
S ME80251V1-A99	70298
O ME80251V2-999	70299
O ME80251V3-999	70300

92x92mm



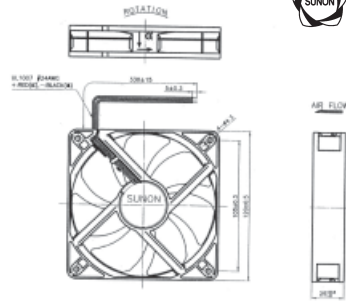
Part No.	Width [mm]	Max. V	Max.I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
EE92251S1-A99	25	12	0,165	2	87,5	34	3000	Sleeve	94	
EE92251S3-999	25	12	0,105	1,3	67,1	28	2400	Sleeve	94	
ME92251V1-A99	25	12	0,165	2	87,5	34	3000	VAPO	96	
ME92251V2-999	25	12	0,135	1,6	76,5	32	2700	VAPO	96	
ME92251V3-999	25	12	0,105	1,3	67,1	28	2400	VAPO	96	
ME92251V3-C99	25	12	0,105	1,3	67,1	28	2400	VAPO	96	3wires
EE92251B1-A99	25	12	0,165	2	87,5	34	3000	Ball	94	
EE92251B1-G99	25	12	0,165	2	87,5	34	3000	Ball	94	3wires

Part No.	Ord.No.
O EE92251S1-A99	70319
O EE92251S3-999	70321
S ME92251V1-A99	70295
O ME92251V2-999	70296
O ME92251V3-999	70297
S ME92251V3-C99	77358
S EE92251B1-A99	77362
S EE92251B1-G99	77363

SUNON Axial DC Fans

(continued)

120x120mm



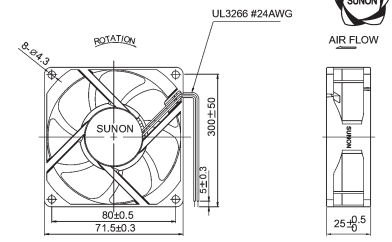
Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
EEC0251B1-A99	25	12	0,445	5,3	183,8	44,5	3100	Ball	157
EEC0251B3-A99	25	12	0,17	2	127,4	34	2200	Ball	157
EEC0252B1-A99	25	24	0,21	5	183,8	44,5	3100	Ball	157
EEC0252B3-A99	25	24	0,086	2,1	127,4	34	2200	Ball	157
MEC0251V1-A99	25	12	0,455	5,5	183,8	44,5	3100	VAPO	162
MEC0251V2-A99	25	12	0,315	3,8	158,0	40,5	2700	VAPO	162
MEC0251V3-A99	25	12	0,19	2,3	127,4	34	2200	VAPO	162
MEC0252V1-A99	25	24	0,225	5,4	183,8	44,5	3100	VAPO	162
MEC0252V2-A99	25	24	0,15	3,6	158,0	40,5	2700	VAPO	162
MEC0252V3-A99	25	24	0,092	2,2	127,4	34	2200	VAPO	162
MEC0254V1-A99	25	48	0,125	6	183,8	44,5	3100	VAPO	162
EEC0381B1-A99	38	12	0,8	9,6	234,5	48	3100	Ball	214
EEC0381B3-A99	38	12	0,255	3,1	158,0	37	2100	Ball	214
EEC0382B1-A99	38	24	0,4	9,6	234,5	48	3100	Ball	214
EEC0382B3-A99	38	24	0,13	3,1	158,0	37	2100	Ball	214
MEC0381V1-A99	38	12	0,845	10,1	234,5	48	3100	VAPO	218
MEC0381V2-A99	38	12	0,5	6	197,1	44	2600	VAPO	218
MEC0381V3-A99	38	12	0,27	3,2	158,0	37	2100	VAPO	218
MEC0382V1-A99	38	24	0,415	10	234,5	48	3100	VAPO	218
MEC0382V2-A99	38	24	0,23	5,5	197,1	44	2600	VAPO	218
MEC0382V3-A99	38	24	0,135	3,2	158	37	2100	VAPO	218
MEC0384V1-A99	38	48	0,245	11,8	234,5	48	3100	VAPO	218

Part No.	Ord.No.
o EEC0251B1-A99	70325
o EEC0251B3-A99	70327
o EEC0252B1-A99	70328
o EEC0252B3-A99	70330
o MEC0251V1-A99	70301
o MEC0251V2-A99	70302
o MEC0251V3-A99	70303
o MEC0252V1-A99	70304
o MEC0252V2-A99	70305
o MEC0252V3-A99	70306
o MEC0254V1-A99	70307
o EEC0381B1-A99	70331
o EEC0381B3-A99	70333
o EEC0382B1-A99	70334
o EEC0382B3-A99	70336
o MEC0381V1-A99	70310
o MEC0381V2-A99	70311
o MEC0381V3-A99	70312
o MEC0382V1-A99	70313
o MEC0382V2-A99	70314
o MEC0382V3-A99	70315
o MEC0384V1-A99	70316

Axial AC Fans

Alveolate motor AC fan series with automatic motor wire wrapping technology ensures stable performance of high wind volume, low acoustic noise, also available with functions of dual spinning rate and thermal cutout.

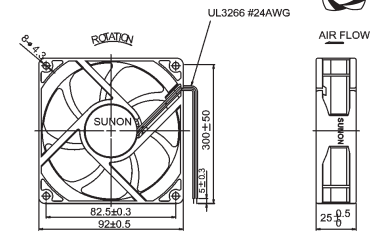
80x80mm



Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
MA2082HVL	25	230	0,1	3,8	67,1	32,8	3200	VAPO	260
SF23080AT-2082HSL	25	230	0,07	14	28,9	29	3200	Sleeve	260
SF23080A-2083HSL	38	230	0,09	14	39,0	31	2300	Sleeve	340

Part No.	Ord.No.
o MA2082HVL	57302
s SF23080AT-2082HSL	20708
s SF23080A-2083HSL	20709

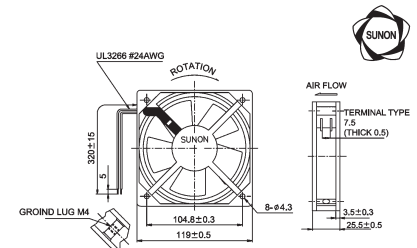
92x92mm



Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
MA2092HVL	25	230	0,1	3,8	87	31,6	2900	VAPO	280
SF23092A-2092HST	25	230	0,07	14,5	49	36	2250	Sleeve	280

Part No.	Ord.No.
o MA2092HVL	56049
s SF23092A-2092HST	20710

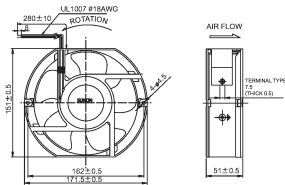
120x120mm



Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
SP101AT-1122HBL	25	115	0,21	19	112	44	2150	Ball	330	
DP201AT-2122HBT	25	230	0,1	19	112	44	2150	Ball	330	
DP201AT-2122HST	25	230	0,1	19	109	43	2000	Sleeve	330	
SF1212AD-BL	38	230/115	0,13	19,5	161	44	2700	Ball	550	Double voltage
SP100A-1123XBT	38	115	0,26	22	165	45	2850	Ball	550	
SP100A-1123XST	38	115	0,26	22	161	44	2700	Sleeve	550	
SP101A-1123HST	38	115	0,21	20	144	43	2550	Sleeve	550	
A2123HBT	38	230	0,14	23	165	45	2700	Ball	525	
A2123HST	38	230	0,14	23	165	44	2700	Sleeve	525	
DP200A-2123XBL	38	230	0,14	22	165	45	2850	Ball	550	
DP200A-2123XBT	38	230	0,14	22	165	45	2850	Ball	550	
DP200A-2123XSL	38	230	0,14	22	161	44	2700	Sleeve	550	
DP200A-2123XST	38	230	0,14	22	161	44	2700	Sleeve	550	
DP201A-2123HST	38	230	0,125	20	148	45	2750	Ball	550	
DP201A-2123HBT	38	230	0,125	20	144	43	2550	Sleeve	550	
DP209WR-2123HST	38	230	0,13	22	144	41	2500	Sleeve	465	

Part No.	Ord.No.
O SP101AT-1122HBL	59976
S DP201AT-2122HBT	45381
S DP201AT-2122HST	4571
O SF1212AD-BL	9383
O SP100A-1123XBT	56735
O SP100A-1123XST	61903
O SP101A-1123HST	60012
S A2123HBT	52107
S A2123HST	55546
S DP200A-2123XBL	4820
S DP200A-2123XBT	51147
S DP200A-2123XSL	64061
S DP200A-2123XST	3557
S DP201A-2123HST	20711
S DP201A-2123HBT	27093
S DP209WR-2123HST	27094

172x151mm

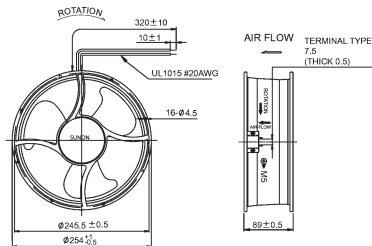


Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
A2175 HBT-T	51	230	0,28	39	306	52	2650	Ball	957
A2175 HBT-TC	51	230	0,11	25	345	51	2800	Ball	908

Part No.	Ord.No.
S A2175 HBT-T	56119
O A2175 HBT-TC	46644

254x254mm

A2259 HBT-TC



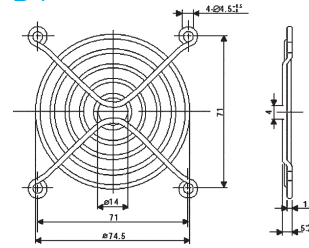
Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m³/hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]
A2259 HBT-TC	89	230	0,24	56	1444	62	650	Ball	2300

Part No.	Ord.No.
O A2259 HBT-TC	57565

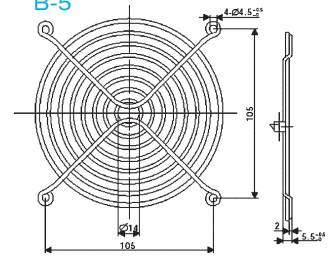
Fan Accessories

Metal Finger Guards

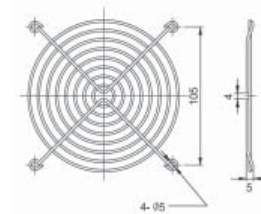
B-1



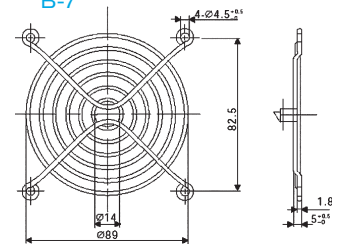
B-5



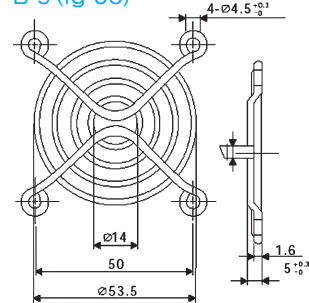
B-5 (FG-12)



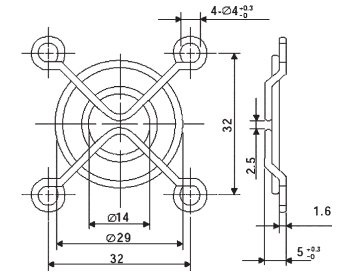
B-7



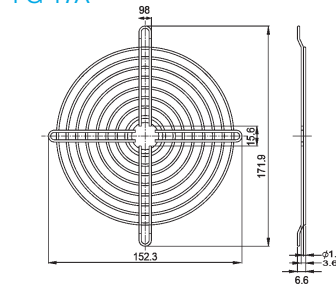
B-9 (fg-06)



B-13



FG-17A



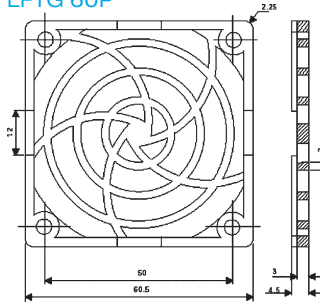
Part No.	Ord.No.	Suitable Fan
S B-1	51024	80x80
S B-5	51026	120x120
S B-7 (FG-09)	51025	92x92
S B-9	6643	60x60
S B-13	5655	40x40
S FG-17A	64489	172x151

Fan Accessories

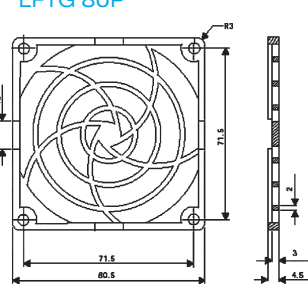
(continued)

Plastic Finger Guards

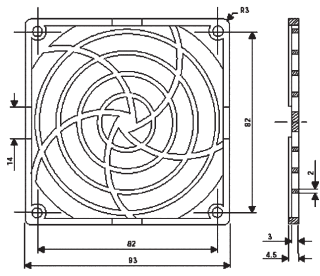
LFTG 60P



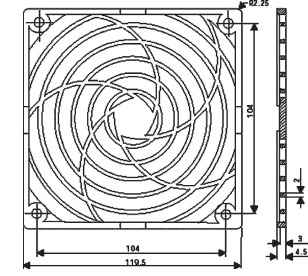
LFTG 80P



LFTG 92P



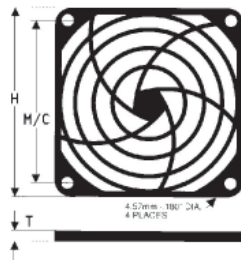
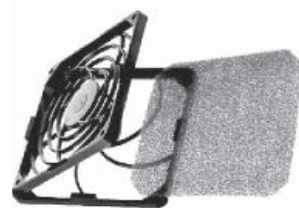
LFTG 120P



Part No.	Ord.No.	Suitable Fan
S LFTG 60P	4572	60x60
S LFTG 80P	4573	80x80
S LFTG 92P	4574	92x92
S LFTG 120P	4575	120x120

Filter Assemblies

Assemblies consist of guard, polyurethan foam filter and media retainer



Part No.	H	T	M/C
LFT 60 FI30	59,95	6,35	50,04
LFT 80 FI30	83,57	9,98	71,37
LFT 92 FI30	96,52	9,98	82,42
LFT 120 FI30	123,70	10,67	104,77

Part No.	Ord.No.	Suitable Fan
S LFT 60 FI30	7981	60x60
S LFT 80 FI30	7831	80x80
S LFT 92 FI30	7982	92x92
S LFT 120 FI30	7698	120x120

Filters for Plastic Finger Guards

Replacement filters for plastic finger guards LFTXX serie.



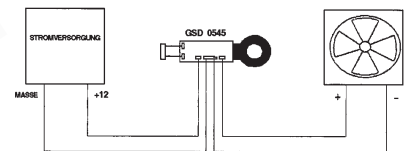
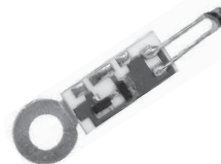
Part No.	Ord.No.	Permeability	Suitable for
o FE40FI30	70565	30ppi	LFT40FI30
o FE40FI45	70566	45ppi	LFT40FI45
o FE60FI30	70563	30ppi	LFT60FI30
o FE60FI45	55955	45ppi	LFT60FI45
o FE80FI30	8571	30ppi	LFT80FI30
o FE80FI45	55953	45ppi	LFT80FI45
o FE92FI30	5123	30ppi	LFT92FI30
o FE92FI45	55954	45ppi	LFT92FI45
o FE120FI30	7581	30ppi	LFT120FI30
o FE120FI45	7582	45ppi	LFT120FI45

Temperature - Dependent Fan Voltage Control for 12V DC Fans

LFTR 104

- Minimizes fan noise
- With NTC as temperature sensor
- For installation in a temperature-sensitive place
- Mounting by screw or cable tie
- LFTR104: mounting designed as cooling vane

Operating Voltage: 12V DC
Load: 400mA max.
Connectable Fan: 4,8W max.
Output Voltage Range: 5,5...11,4V approx.
Voltage Drop: 0,6V



Part No.	Ord.No.
S LFTR 104	7283

Fan Connection Cable

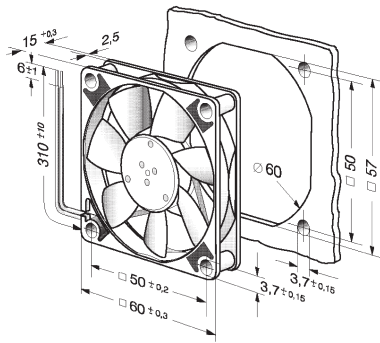


Connection cable with black PVC plug
Suitable for all fans with plug connectors
3x0,5mm

Part No.	Cable length	Ord.No.
S A2-03	30 cm	61169
S A2-10	1 m	52108
S A2-20	2 m	27105
o A2-06	60 cm	27104

Axial DC Fans
60x60mm

ebmpapst

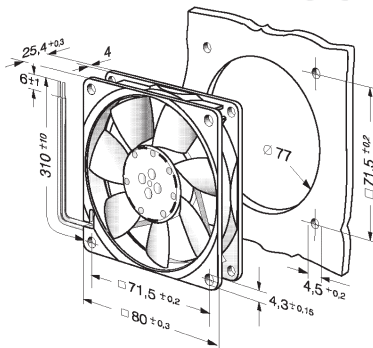


Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
PAPST 612 F/2	15	12	0,09	1	29	27	3900	Sleeve	30	Tachosignal

Part No.	Ord.No.
S PAPST 612 F/2	50989

80x80mm

ebmpapst

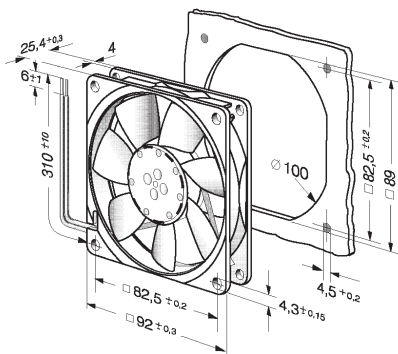


Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
PAPST 8412 N/2GM	25	12	0,11	1,3	58	26	2600	Sleeve	95	Tachosignal
PAPST 8412 NGLLE	25	12	0,03	0,35	20	9	1000	Sleeve	95	Super silent

Part No.	Ord.No.
S PAPST 8412 N/2GM	50991
S PAPST 8412 NGLLE	50993

92x92x25mm
PAPST 3412 NGMV

ebmpapst

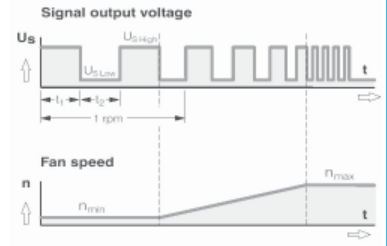


Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
PAPST 3412 NGMV	25	12	0,16	2	72	28	2300	Sleeve	100	Variofan

Part No.	Ord.No.
S PAPST 3412 NGMV	50994

TACHOSIGNAL

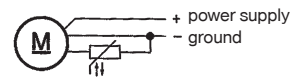
Sensor integrated in the electronics generates speed-proportional rectangular pulses. In order to monitor the fan speed, the commutation signals of the motor that are required any-way for creating the rotating field can also be used. In both cases, the tach signal is available either at an open collector output, galvanically isolated or TTL-compatible. This means e.g. that the speed of the fan can be monitored in the computer or controlled externally.



Signal symmetry [t₁, t₂] = 0.8 ... 1.2
Signal frequency [F] = 2 x n/60 Hz

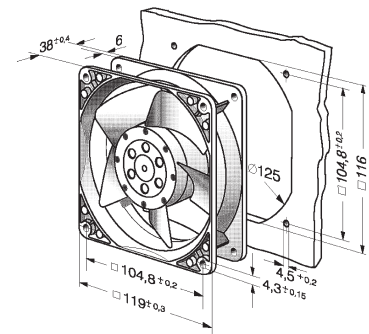
VARIOFAN

PAPST VARIOFAN – the fans with IC technology and temperature dependent speed control. VARIOFANs always cool at the speed required by the appliance resulting in speeds as much as 50% lower than those of standard fans and a drastic reduction of the noise level in almost all operating conditions. VARIOFAN are controlled without dissipation losses: At lower speeds their power consumption is reduced proportionally.



Axial AC Fans
119x119mm

ebmpapst



all-metal

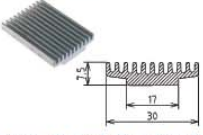
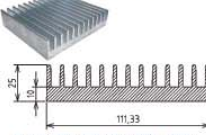
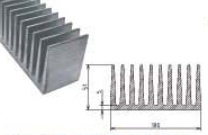
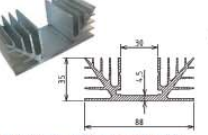
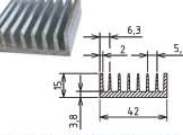
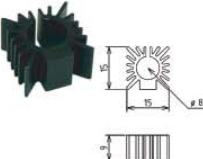


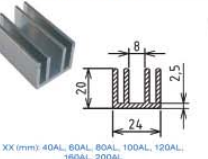
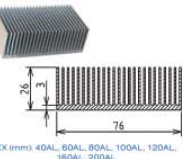







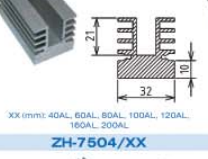




















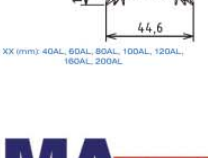
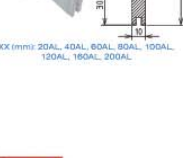


Part No.	Width [mm]	Max. V	Max. I [A]	Power [W]	Air Flow [m ³ /hour]	Noise [dBA]	Speed [RPM]	Bearing	Weight [g]	Note
PAPST 4606 N	38	115	0,16	18	180	51	3100	Ball	550	All metal
PAPST 4650 N	38	230	0,08	19	160	46	2650	Sleeve	550	All metal

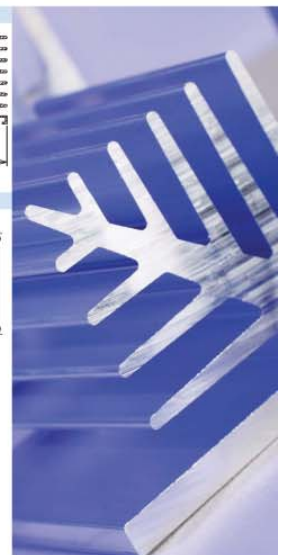
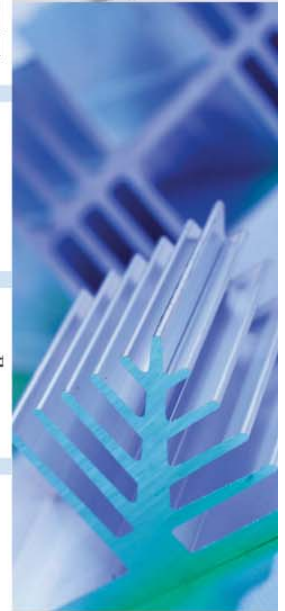
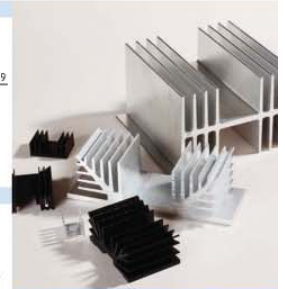
Part No.	Ord.No.
S PAPST 4606 N	7974
S PAPST 4650 N	43414

SOS electronic - distributor of

GAMA aluminium

heatsinks

<p>ST-KE30/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-0610/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL, 300AL</p>	<p>ZH-2533/XX</p>  <p>XX (mm) - 40AL, 50BK, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>T88/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>K42/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>
<p>ST-T19BK</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-0752/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-3069/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>TE25/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>K76/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>
<p>ST-T22BK</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-0753/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-4611/XX</p>  <p>XX (mm) - 40AL, 50AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>TE65/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>K112/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>
<p>ST-T25ABK</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-1136/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-7503/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>TE70/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>K230/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>
<p>ST-TE19BK</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-1910/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 150AL, 160AL, 200AL</p>	<p>ZH-7504/XX</p>  <p>XX (mm) - 20AL, 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>TEA35/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>KE82/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>
<p>ST-TE28BK</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-1929/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-7505/XX</p>  <p>XX (mm) - 20AL, 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>TEA40/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>KE215/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>
<p>ST-TEA28BK</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>ZH-2117/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>T29/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>T54/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>A59/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>
<p>ZH-0136/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL, 256BK</p>	<p>ZH-2428/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL, 300BK</p>	<p>T44/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>TEA45/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>	<p>A75M/XX</p>  <p>XX (mm) - 20AL, 40AL, 60AL, 80AL, 100AL, 120AL, 160AL, 200AL</p>
<p>ZH-0137/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 130AL, 160AL, 200AL</p>	<p>ZH-2476/XX</p>  <p>XX (mm) - 40AL, 60AL, 80AL, 100AL, 120AL, 150AL, 160AL, 200AL, 280BK</p>			

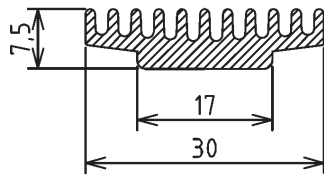
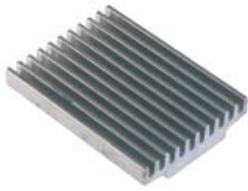


GAMA aluminium

Standard Heatsinks

ST-KE30/XX Series

GAMAaluminium

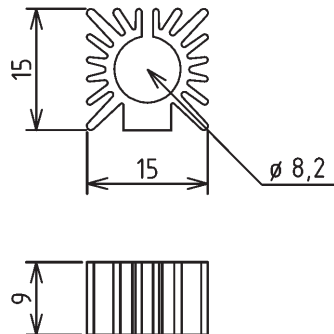


Part No.	Material/Surface Finish	Description
ST-KE30/40AL	aluminium/non-anodised	L=40mm 30x7,5
ST-KE30/60AL	aluminium/non-anodised	L=60mm 30x7,5

Part No.	Ord.No.
S ST-KE30/40AL	65684
O ST-KE30/60AL	65763

ST-T19BK Series

GAMAaluminium

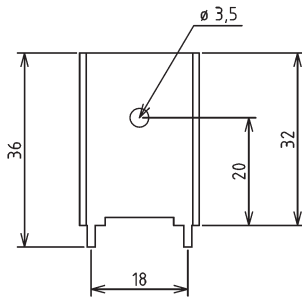
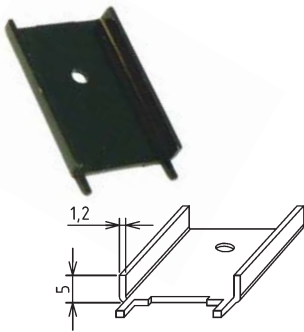


Part No.	Material/Surface Finish	Description
ST-T19BK	aluminium/black anodised	15x15x9mm

Part No.	Ord.No.
S ST-T19BK	66164

ST-T22BK Series

GAMAaluminium

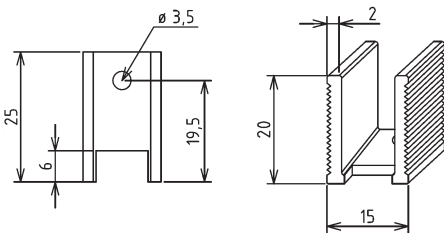


Part No.	Material/Surface Finish	Description
ST-T22BK	aluminium/black anodised	18x36x5mm

Part No.	Ord.No.
S ST-T22BK	66165

ST-T25ABK Series

GAMAaluminium

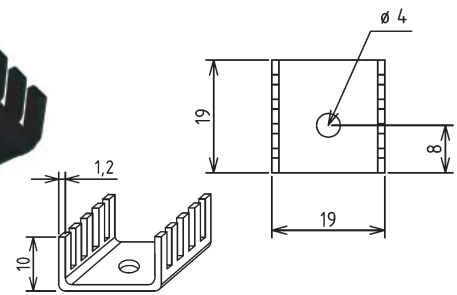


Part No.	Material/Surface Finish	Description
ST-T25ABK	aluminium/black anodised	15x25x20mm

Part No.	Ord.No.
S ST-T25ABK	66166

ST-TE19BK Series

GAMAaluminium

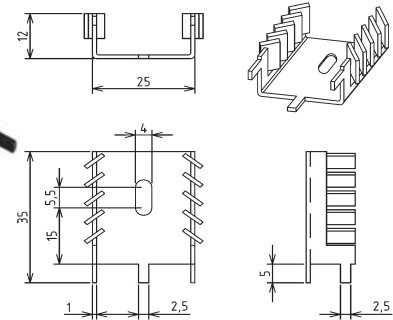


Part No.	Material/Surface Finish	Description
ST-TE19BK	aluminium/black anodised	19x19x10mm

Part No.	Ord.No.
S ST-TE19BK	66167

ST-TE28BK Series

GAMAaluminium

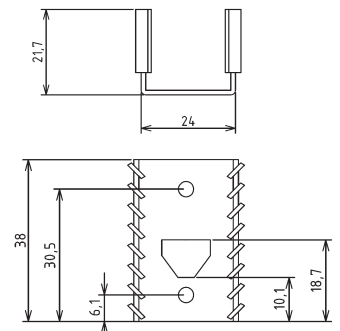


Part No.	Material/Surface Finish	Description
ST-TE28BK	aluminium/black anodised	25x35x12mm

Part No.	Ord.No.
S ST-TE28BK	66168

ST-TEA28BK Series

GAMAaluminium



Part No.	Material/Surface Finish	Description
ST-TEA28BK	aluminium/black anodised	24x38x21,7mm

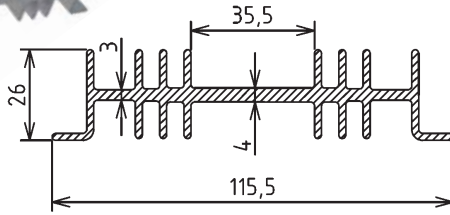
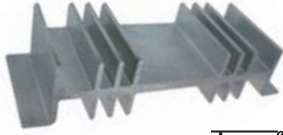
Part No.	Ord.No.
S ST-TEA28BK	66169

Standard Heatsinks

(continued)

ZH-0136/XX Series

GAMAaluminium

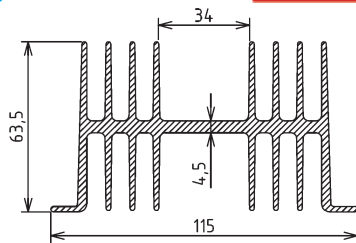


Part No.	Material/Surface Finish	Description
ZH-0136/40AL	aluminium/non-anodised	L=40mm 115,5x26
ZH-0136/80AL	aluminium/non-anodised	L=80mm 115,5x26

Part No.	Ord.No.
S ZH-0136/40AL	65619
S ZH-0136/80AL	65774

ZH-0137/XX Series

GAMAaluminium

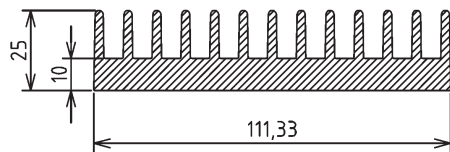
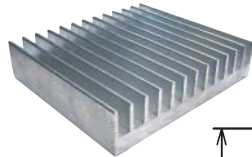


Part No.	Thermal Res.	Mat./Surface Finish	Description
ZH-0137/100AL	1,9K/W/100mm	Al/non-anodised	L=100mm 115x63,5

Part No.	Ord.No.
S ZH-0137/100AL	8076

ZH-0610/XX Series

GAMAaluminium

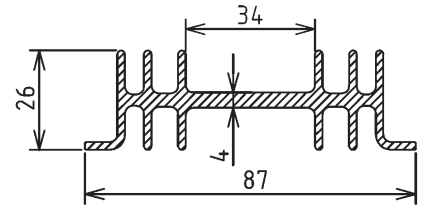


Part No.	Material/Surface Finish	Description
ZH-0610/40AL	aluminium/non-anodised	L=40mm 111,33x25
ZH-0610/100AL	aluminium/non-anodised	L=100mm 111,33x25

Part No.	Ord.No.
O ZH-0610/40AL	65622
S ZH-0610/100AL	8077

ZH-0752/XX Series

GAMAaluminium

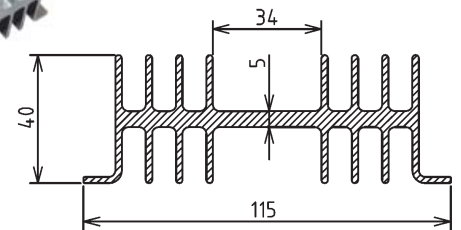


Part No.	Material/Surface Finish	Description
ZH-0752/40AL	aluminium/non-anodised	L=40mm 87x26
ZH-0752/100AL	aluminium/non-anodised	L=100mm 87x26

Part No.	Ord.No.
O ZH-0752/40AL	65623
S ZH-0752/100AL	65854

ZH-0753/XX Series

GAMAaluminium

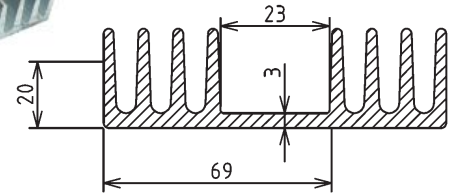
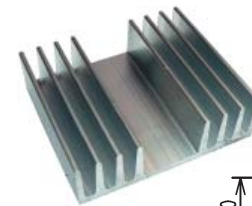


Part No.	Thermal Res.	Mat./Surface Finish	Description
ZH-0753/40AL	1,6K/W/100mm	Al/non-anodised	L=40mm 115x40
ZH-0753/60AL	1,6K/W/100mm	Al/non-anodised	L=60mm 115x40
ZH-0753/100AL	1,6K/W/100mm	Al/non-anodised	L=100mm 115x40
ZH-0753/200AL	1,6K/W/100mm	Al/non-anodised	L=200mm 115x40

Part No.	Ord.No.
O ZH-0753/40AL	65624
S ZH-0753/60AL	65700
S ZH-0753/100AL	8074
S ZH-0753/200AL	8075

ZH-1136/XX Series

GAMAaluminium



Part No.	Material/Surface Finish	Description
ZH-1136/60AL	aluminium/non-anodised	L=60mm 69x20
ZH-1136/100AL	aluminium/non-anodised	L=100mm 69x20

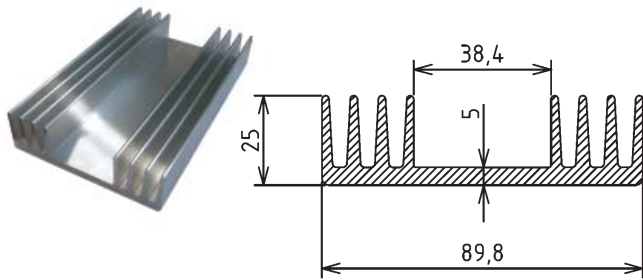
Part No.	Ord.No.
S ZH-1136/60AL	65701
O ZH-1136/100AL	65855

Note: Heatsink dimensions are marked in mm.

Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

ZH-1910/XX Series

GAMA aluminium

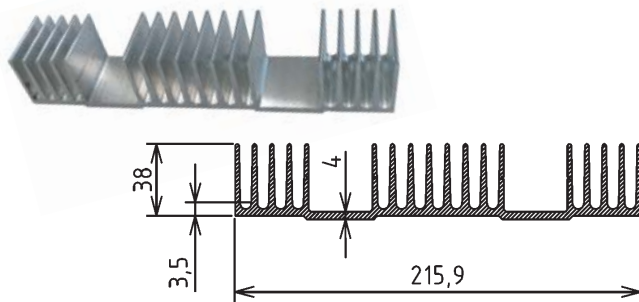


Part No.	Material/Surface Finish	Description
ZH-1910/60AL	aluminium/non-anodised	L=60mm 89,8x25
ZH-1910/100AL	aluminium/non-anodised	L=100mm 89,8x25
ZH-1910/150AL	aluminium/non-anodised	L=150mm 89,8x25

Part No.	Ord.No.
o ZH-1910/60AL	65702
o ZH-1910/100AL	65856
s ZH-1910/150AL	62432

ZH-1929/XX Series

GAMA aluminium

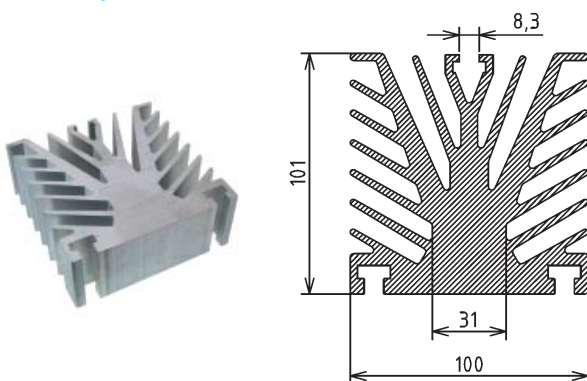


Part No.	Thermal Res.	Mat./Surface Finish	Description
ZH-1929/40AL	0,5K/W/100mm	Al/non-anodised	L=40mm 215,9x38
ZH-1929/60AL	0,5K/W/100mm	Al/non-anodised	L=60mm 215,9x38
ZH-1929/100AL	0,5K/W/100mm	Al/non-anodised	L=100mm 215x38

Part No.	Ord.No.
s ZH-1929/40AL	8080
o ZH-1929/60AL	65703
o ZH-1929/100AL	65857

ZH-2117/XX Series

GAMA aluminium

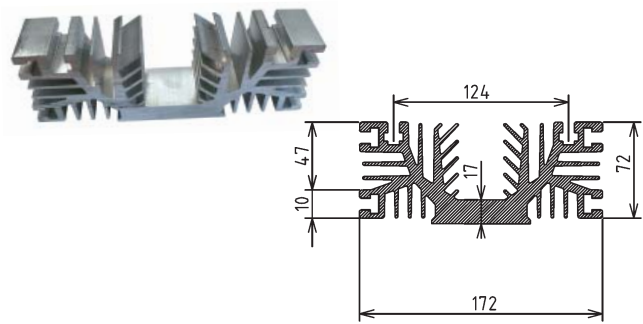


Part No.	Material/Surface Finish	Description
ZH-2117/40AL	aluminium/non-anodised	L=40mm 100x101
ZH-2117/80AL	aluminium/non-anodised	L=80mm 100x101

Part No.	Ord.No.
s ZH-2117/40AL	65627
o ZH-2117/80AL	65781

ZH-2428/XX Series

GAMA aluminium

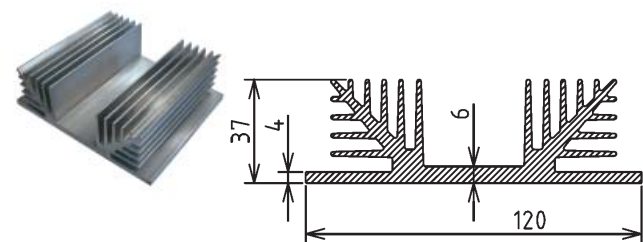


Part No.	Material/Surface Finish	Description
ZH-2428/40AL	aluminium/non-anodised	L=40mm 172x72
ZH-2428/80AL	aluminium/non-anodised	L=80mm 172x72

Part No.	Ord.No.
s ZH-2428/40AL	65628
o ZH-2428/80AL	65782

ZH-2476/XX Series

GAMA aluminium

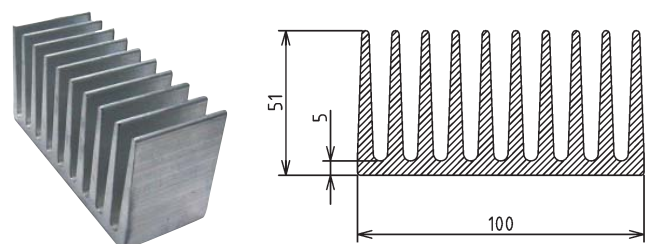


Part No.	Thermal Res.	Mat./Surface Finish	Description
ZH-2476/40AL	0,8K/W/100mm	Al/non-anodised	L=40mm 120x37
ZH-2476/60AL	0,8K/W/100mm	Al/non-anodised	L=60mm 120x37
ZH-2476/80AL	0,8K/W/100mm	Al/non-anodised	L=80mm 120x37
ZH-2476/100AL	0,8K/W/100mm	Al/non-anodised	L=100mm 120x37

Part No.	Ord.No.
s ZH-2476/40AL	8079
o ZH-2476/60AL	65706
o ZH-2476/80AL	62471
s ZH-2476/100AL	65860

ZH-2533/XX Series

GAMA aluminium



Part No.	Thermal Res.	Mat./Surface Finish	Description
ZH-2533/40AL	0,8K/W/100mm	Al/non-anodised	L=40mm 100x51
ZH-2533/100AL	0,8K/W/100mm	Al/non-anodised	L=100mm 100x51

Part No.	Ord.No.
s ZH-2533/40AL	8078
o ZH-2533/100AL	65861

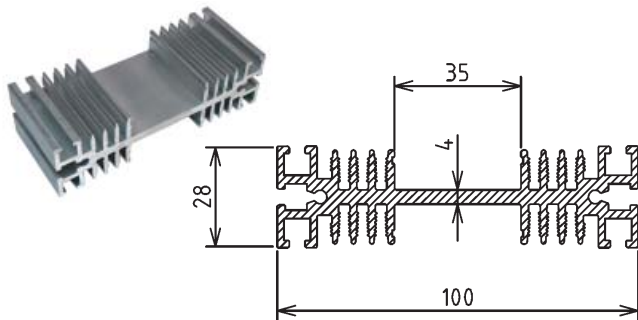
Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

Standard Heatsinks

(continued)

ZH-3069/XX Series

GAMA aluminium

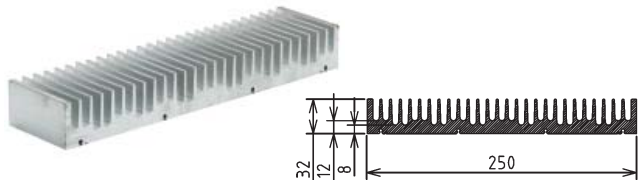


Part No.	Material/Surface Finish	Description
ZH-3069/40AL	aluminium/non-anodised	L=40mm 100x28
ZH-3069/100AL	aluminium/non-anodised	L=100mm 100x28

Part No.	Ord.No.
s ZH-3069/40AL	65629
o ZH-3069/100A	65862

ZH-4185/XX Series

GAMA aluminium

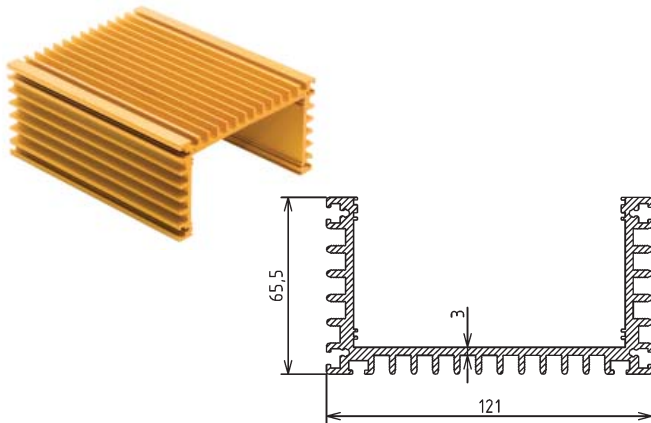


Part No.	Material/Surface Finish	Description
ZH-4185/40AL	aluminium/non-anodised	L=40mm 250x32

Part No.	Ord.No.
o ZH-4185/40AL	65630

ZH-4268/XX Series

GAMA aluminium

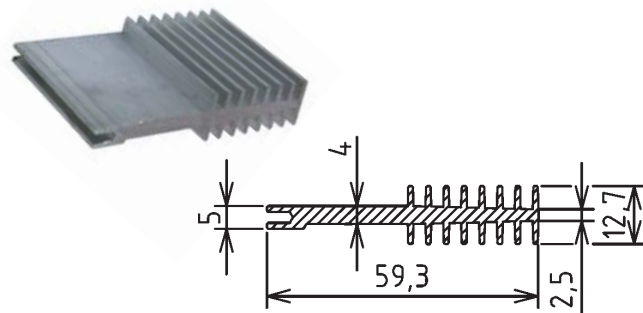


Part No.	Material/Surface Finish	Description
ZH-4268/40AL	aluminium/non-anodised	L=40mm 121x65,5

Part No.	Ord.No.
o ZH-4268/40AL	65631

ZH-4611/XX Series

GAMA aluminium

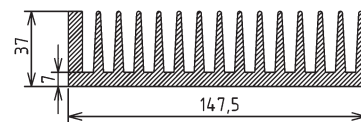


Part No.	Material/Surface Finish	Description
ZH-4611/40AL	aluminium/non-anodised	L=40mm 59,3x12,7
ZH-4611/80AL	aluminium/non-anodised	L=80mm 59,3x12,7

Part No.	Ord.No.
s ZH-4611/40AL	65632
o ZH-4611/80AL	65787

ZH-5073/XX Series

GAMA aluminium

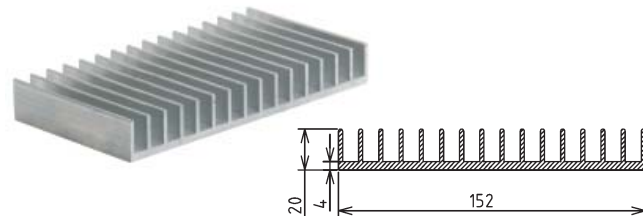


Part No.	Material/Surface Finish	Description
ZH-5073/40AL	aluminium/non-anodised	L=40mm 147,5x37
ZH-5073/100AL	aluminium/non-anodised	L=100mm 147x37

Part No.	Ord.No.
o ZH-5073/40AL	65633
o ZH-5073/100AL	62435

ZH-6465/XX Series

GAMA aluminium

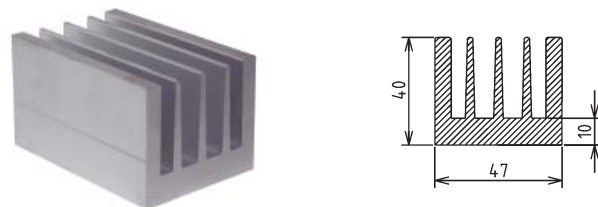


Part No.	Material/Surface Finish	Description
ZH-6465/40AL	aluminium/non-anodised	L=40mm 152x20

Part No.	Ord.No.
o ZH-6465/40AL	65635

ZH-6789/XX Series

GAMA aluminium



Part No.	Material/Surface Finish	Description
ZH-6789/80AL	aluminium/non-anodised	L=80mm 47x40

Part No.	Ord.No.
o ZH-6789/80AL	65794

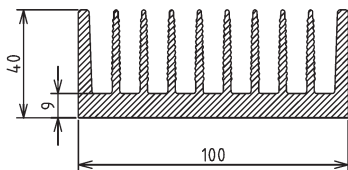
Note: Heatsink dimensions are marked in mm.

Code "AL" - Aluminium/non-anodised,

Code "BK" - Aluminium Anodised Black.

ZH-7484/XX Series

GAMAaluminium

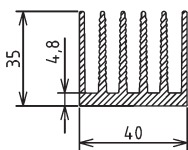


Part No.	Material/Surface Finish	Description
ZH-7484/40AL	aluminium/non-anodised	L=40mm 100x40

Part No.	Ord.No.
S ZH-7484/40AL	65641

ZH-7485/XX Series

GAMAaluminium

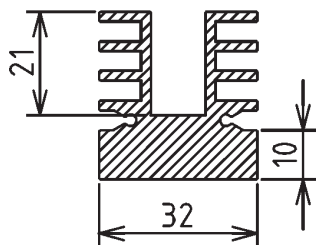


Part No.	Material/Surface Finish	Description
ZH-7485/40AL	aluminium/non-anodised	L=40mm 40x35
ZH-7485/80AL	aluminium/non-anodised	L=80mm 40x35

Part No.	Ord.No.
O ZH-7485/40AL	65642
O ZH-7485/80AL	65797

ZH-7503/XX Series

GAMAaluminium



Part No.	Material/Surface Finish	Description
ZH-7503/40AL	aluminium/non-anodised	L=40mm 32x32
ZH-7503/60AL	aluminium/non-anodised	L=60mm 32x32
ZH-7503/80AL	aluminium/non-anodised	L=80mm 32x32

Part No.	Ord.No.
O ZH-7503/40AL	65643
S ZH-7503/60AL	65722
O ZH-7503/80AL	65798

CLIP 221007

NEW!

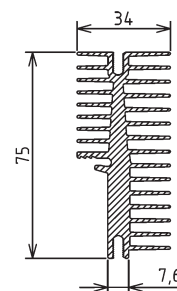


Clip for heatsinks A75, ZH7504, ZH7505

Part No.	Ord.No.
S CLIP 221007	67591

ZH-7504/XX Series

GAMAaluminium

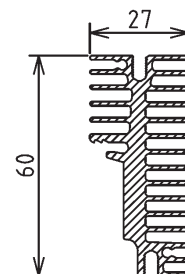


Part No.	Material/Surface Finish	Description
ZH-7504/20AL	aluminium/non-anodised	L=20mm 34x75
ZH-7504/40AL	aluminium/non-anodised	L=40mm 34x75
ZH-7504/60AL	aluminium/non-anodised	L=60mm 34x75
ZH-7504/80AL	aluminium/non-anodised	L=80mm 34x75

Part No.	Ord.No.
S ZH-7504/20AL	67341
S ZH-7504/40AL	65644
O ZH-7504/60AL	65723
S ZH-7504/80AL	65799

ZH-7505/XX Series

GAMAaluminium

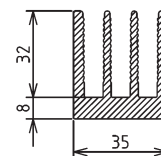


Part No.	Material/Surface Finish	Description
ZH-7505/20AL	aluminium/non-anodised	L=20mm 27x60
ZH-7505/40AL	aluminium/non-anodised	L=40mm 27x60
ZH-7505/60AL	aluminium/non-anodised	L=60mm 27x60
ZH-7505/80AL	aluminium/non-anodised	L=80mm 27x60

Part No.	Ord.No.
O ZH-7505/20AL	67342
S ZH-7505/40AL	65645
O ZH-7505/60AL	65724
S ZH-7505/80AL	65800

ZH-7770/XX Series

GAMAaluminium



Part No.	Material/Surface Finish	Description
ZH-7770/40AL	aluminium/non-anodised	L=40mm 35x40
ZH-7770/60AL	aluminium/non-anodised	L=60mm 35x40
ZH-7770/80AL	aluminium/non-anodised	L=80mm 35x40

Part No.	Ord.No.
O ZH-7770/40AL	65646
O ZH-7770/60AL	65725
O ZH-7770/80AL	65801

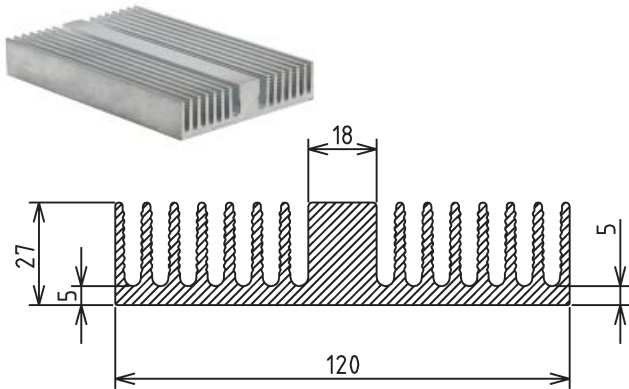
Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

Standard Heatsinks

(continued)

ZH-7771/XX Series

GAMA aluminium

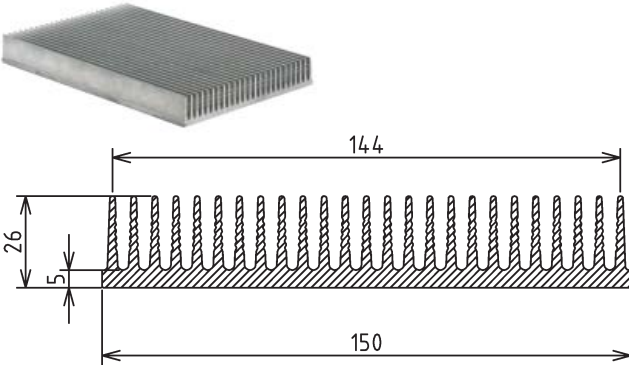


Part No.	Material/Surface Finish	Description
ZH-7771/40AL	aluminium/non-anodised	L=40mm 120x27
ZH-7771/100AL	aluminium/non-anodised	L=100mm 120x27

Part No.	Ord.No.
o ZH-7771/40AL	65647
o ZH-7771/100AL	65878

ZH-8001/XX Series

GAMA aluminium

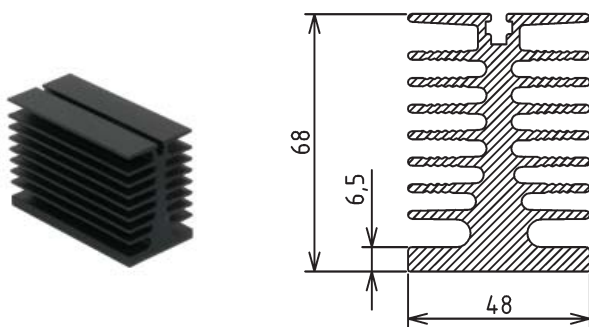


Part No.	Material/Surface Finish	Description
ZH-8001/40AL	aluminium/non-anodised	L=40mm 150x26

Part No.	Ord.No.
o ZH-8001/40AL	65648

ZH-8002/XX Series

GAMA aluminium

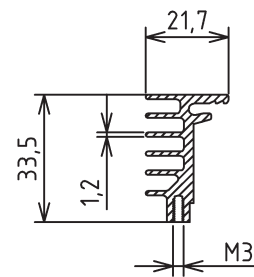


Part No.	Material/Surface Finish	Description
ZH-8002/40AL	aluminium/non-anodised	L=40mm 48x68
ZH-8002/100AL	aluminium/non-anodised	L=100mm 48x68

Part No.	Ord.No.
o ZH-8002/40AL	65649
o ZH-8002/100AL	65880

ZH-8247/XX Series

GAMA aluminium



Part No.	Material/Surface Finish	Description
ZH-8247/40AL	aluminium/non-anodised	L=40mm 21,7x33,5
ZH-8247/60AL	aluminium/non-anodised	L=60mm 21,7x33,5
ZH-8247/80AL	aluminium/non-anodised	L=80mm 21,7x33,5

Part No.	Ord.No.
o ZH-8247/40AL	65650
o ZH-8247/60AL	65729
o ZH-8247/80AL	65805

ZH-8624/XX Series

GAMA aluminium

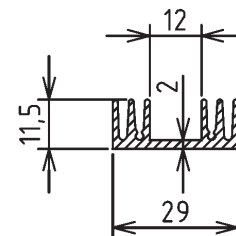


Part No.	Material/Surface Finish	Description
ZH-8624/40AL	aluminium/non-anodised	L=40mm 42x15

Part No.	Ord.No.
s ZH-8624/40AL	75467

T29/XX Series

GAMA aluminium



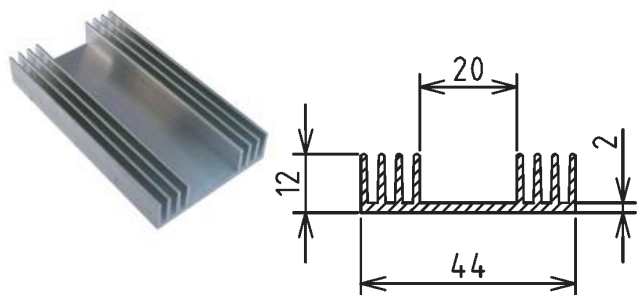
Part No.	Material/Surface Finish	Description
T29/40AL	aluminium/non-anodised	L=40mm 29x11,5
T29/80AL	aluminium/non-anodised	L=80mm 29x11,5

Part No.	Ord.No.
s T29/40AL	65685
s T29/80AL	65842

Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

T44/XX Series

GAMA aluminium

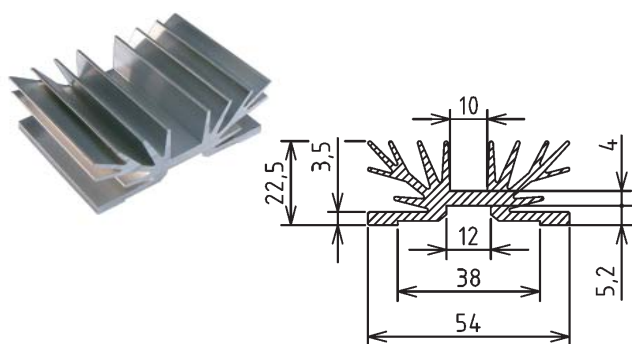


Part No.	Material/Surface Finish	Description
T44/40AL	aluminium/non-anodised	L=40mm 44x12
T44/80AL	aluminium/non-anodised	L=80mm 44x12

Part No.	Ord.No.
S T44/40AL	65686
S T44/80AL	65843

T54/XX Series

GAMA aluminium

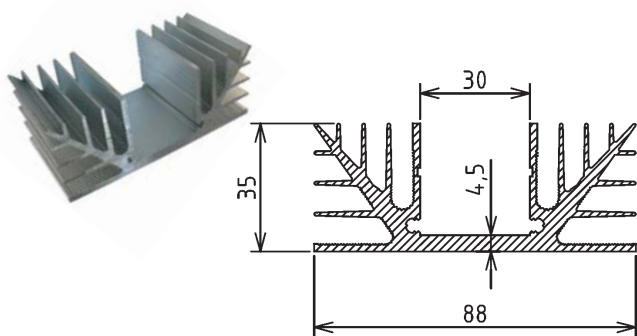


Part No.	Material/Surface Finish	Description
T54/40AL	aluminium/non-anodised	L=40mm 54x22,5
T54/60AL	aluminium/non-anodised	L=60mm 54x22,5
T54/100AL	aluminium/non-anodised	L=100mm 54x22,5

Part No.	Ord.No.
S T54/40AL	65687
O T54/60AL	65766
O T54/100AL	65919

T88/XX Series

GAMA aluminium

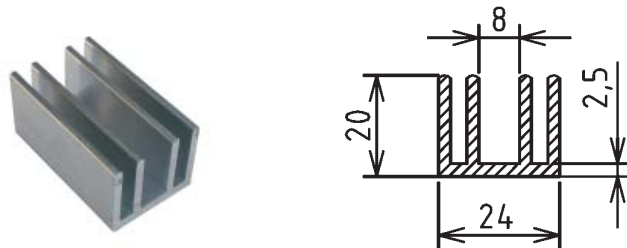


Part No.	Material/Surface Finish	Description
T88/40AL	aluminium/non-anodised	L=40mm 88x35
T88/60AL	aluminium/non-anodised	L=60mm 88x35
T88/80AL	aluminium/non-anodised	L=80mm 88x35

Part No.	Ord.No.
S T88/40AL	65688
O T88/60AL	65767
S T88/80AL	65845

TE25/XX Series

GAMA aluminium

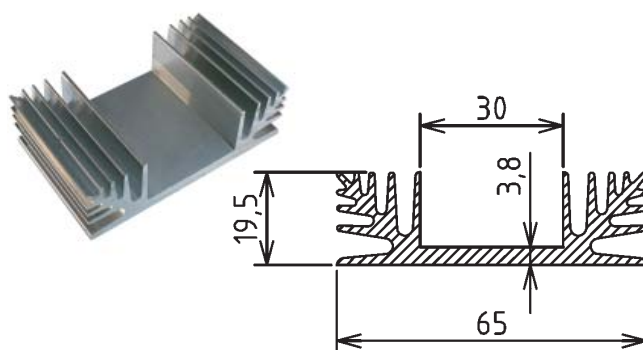


Part No.	Material/Surface Finish	Description
TE25/40AL	aluminium/non-anodised	L=40mm 24x20
TE25/80AL	aluminium/non-anodised	L=80mm 24x20

Part No.	Ord.No.
S TE25/40AL	65689
O TE25/80AL	65846

TE65/XX Series

GAMA aluminium

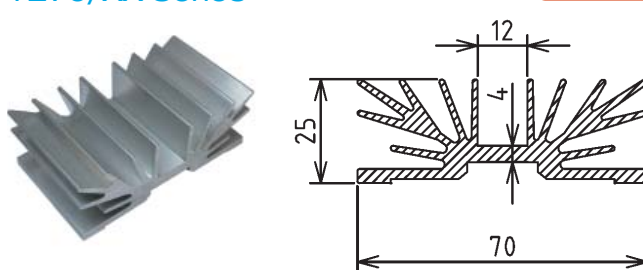


Part No.	Material/Surface Finish	Description
TE65/40AL	aluminium/non-anodised	L=40mm 65x19,5
TE65/60AL	aluminium/non-anodised	L=60mm 65x19,5
TE65/80AL	aluminium/non-anodised	L=80mm 65x19,5
TE65/100AL	aluminium/non-anodised	L=100mm 65x19,5

Part No.	Ord.No.
S TE65/40AL	65690
O TE65/60AL	65769
O TE65/80AL	65847
O TE65/100AL	65922

TE70/XX Series

GAMA aluminium



Part No.	Material/Surface Finish	Description
TE70/40AL	aluminium/non-anodised	L=40mm 70x25
TE70/60AL	aluminium/non-anodised	L=60mm 70x25
TE70/80AL	aluminium/non-anodised	L=80mm 70x25

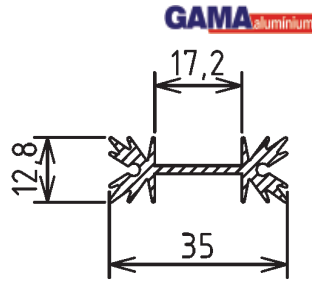
Part No.	Ord.No.
S TE70/40AL	65691
O TE70/60AL	65770
O TE70/80AL	65848

Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

Standard Heatsinks

(continued)

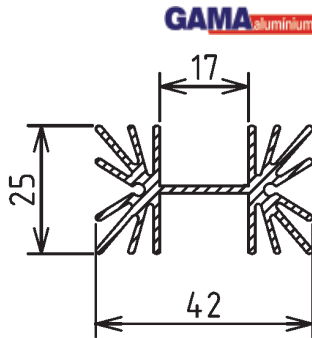
TEA35/XX Series



Part No.	Material/Surface Finish	Description
TEA35/40AL	Aluminium/non-anodised	L=40mm 35x12,8
TEA35/60AL	Aluminium/non-anodised	L=60mm 35x12,8

Part No.	Ord.No.
s TEA35/40AL	65692
s TEA35/60AL	65771

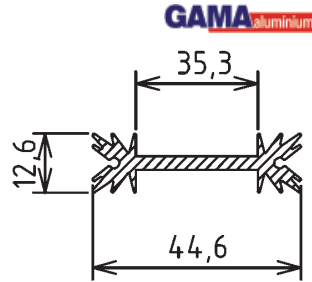
TEA40/XX Series



Part No.	Material/Surface Finish	Description
TEA40/40AL	Aluminium/non-anodised	L=40mm 42x25
TEA40/60AL	Aluminium/non-anodised	L=60mm 42x25

Part No.	Ord.No.
s TEA40/40AL	65693
s TEA40/60AL	65772

TEA45/XX Series



Part No.	Material/Surface Finish	Description
TEA45/40AL	Aluminium/non-anodised	L=40mm 44,6x12,6
TEA45/60AL	Aluminium/non-anodised	L=60mm 44,6x12,6

Part No.	Ord.No.
s TEA45/40AL	65694
s TEA45/60AL	65773

TEAxx Mounting Clips

TEA35 CLIP

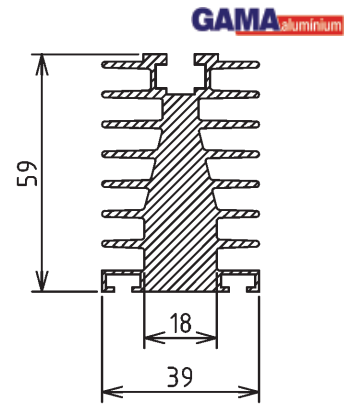
TEA40 CLIP

TEA45 CLIP



Part No.	Ord.No.
s TEA35 CLIP	67588
s TEA40 CLIP	67589
s TEA45 CLIP	67590

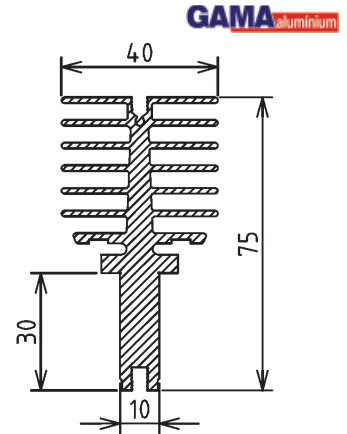
A59/XX Series



Part No.	Material/Surface Finish	Description
A59/40AL	Aluminium/non-anodised	L=40mm 39x59

Part No.	Ord.No.
s A59/40AL	65651

A75M/XX Series



Part No.	Material/Surface Finish	Description
A75M/20AL	Aluminium/non-anodised	L=20mm 40x75
A75M/40AL	Aluminium/non-anodised	L=40mm 40x75

Part No.	Ord.No.
s A75M/20AL	67329
s A75M/40AL	65652

Mounting CLIP 221007



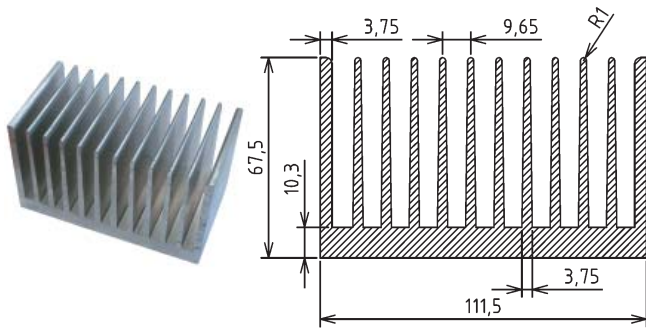
Retaining clip for heatsinks A75, ZH7504, ZH7505

Part No.	Ord.No.
s CLIP 221007	67591

Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

K112/XX Series

GAMA aluminium

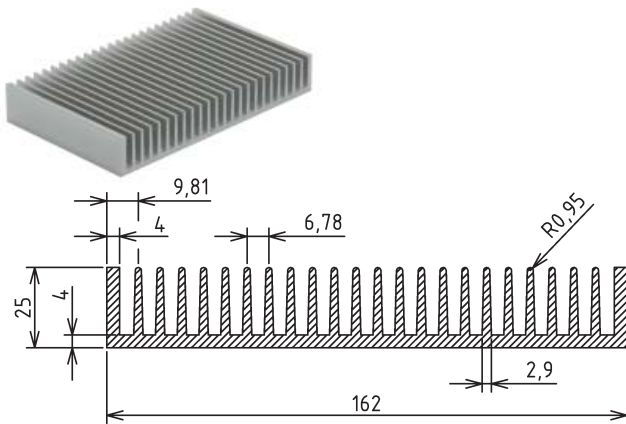


Part No.	Material/Surface Finish	Description
K112/60AL	aluminium/non-anodised	L=60mm 111,5x67,5
K112/80AL	aluminium/non-anodised	L=80mm 111,5x67,5

Part No.	Ord.No.
s K112/60AL	65749
o K112/80AL	65826

K163/XX Series

GAMA aluminium

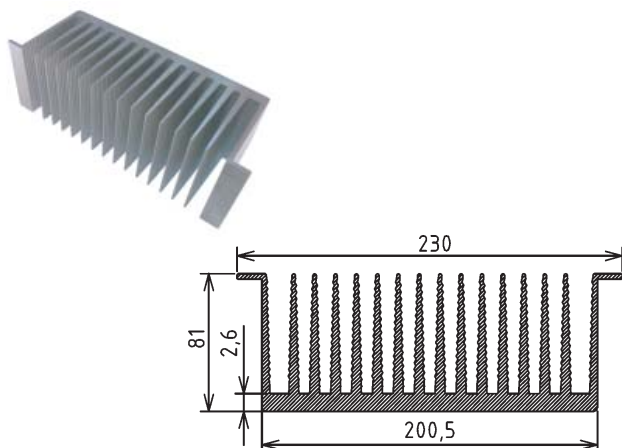


Part No.	Material/Surface Finish	Description
K163/40AL	aluminium/non-anodised	L=40mm 162x25

Part No.	Ord.No.
o K163/40AL	65671

K230/XX Series

GAMA aluminium

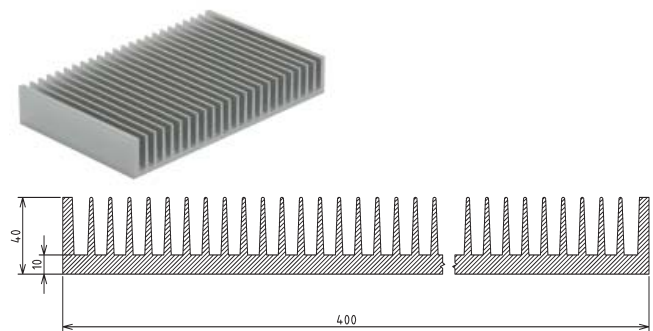


Part No.	Material/Surface Finish	Description
K230/80AL	aluminium/non-anodised	L=80mm 230x81

Part No.	Ord.No.
s K230/80AL	65828

K400/XX Series

GAMA aluminium

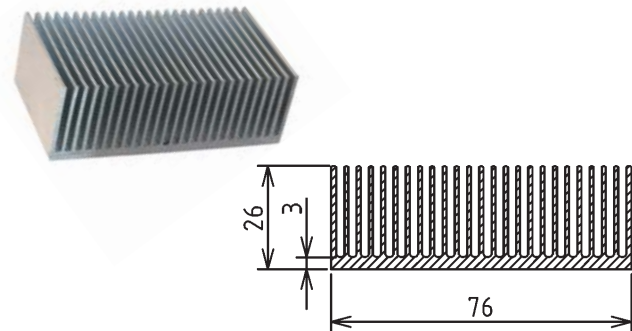


Part No.	Material/Surface Finish	Description
K400/40AL	aluminium/non-anodised	L=40mm 400x40

Part No.	Ord.No.
o K400/40AL	65673

K76/XX Series

GAMA aluminium

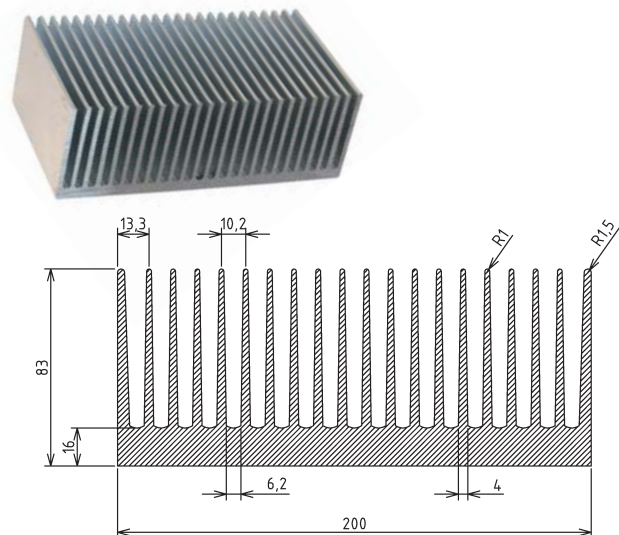


Part No.	Material/Surface Finish	Description
K76/40AL	aluminium/non-anodised	L=40mm 76x26

Part No.	Ord.No.
s K76/40AL	65669

KA200/XX Series

GAMA aluminium



Part No.	Material/Surface Finish	Description
KA200/40AL	aluminium/non-anodised	L=40mm 200x83
KA200/60AL	aluminium/non-anodised	L=60mm 200x83

Part No.	Ord.No.
o KA200/40AL	65674
o KA200/60AL	65753

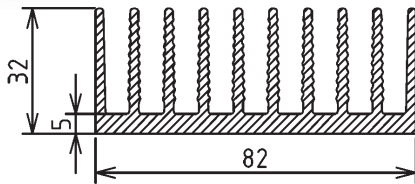
Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

Standard Heatsinks

(continued)

KE82/XX Series

GAMA aluminium

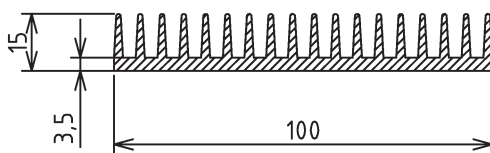


Part No.	Material/Surface Finish	Description
KE82/40AL	aluminium/non-anodised	L=40mm 82x32

Part No.	Ord.No.
S KE82/40AL	65675

KE100/XX Series

GAMA aluminium

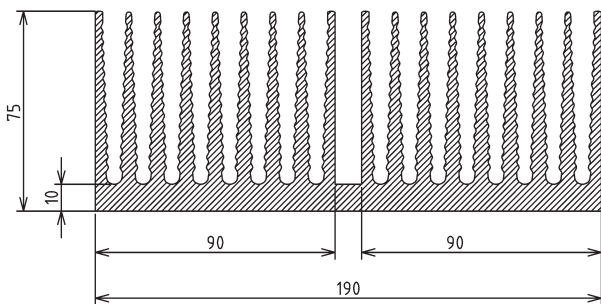


Part No.	Material/Surface Finish	Description
KE100/40AL	aluminium/non-anodised	L=40mm 100x15

Part No.	Ord.No.
o KE100/40AL	65676

KE190/XX Series

GAMA aluminium

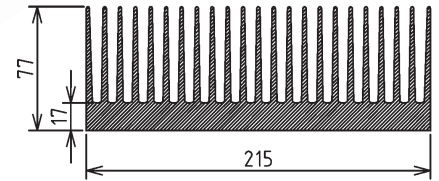
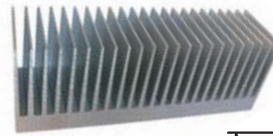


Part No.	Material/Surface Finish	Description
KE190/40AL	aluminium/non-anodised	L=40mm 190x75

Part No.	Ord.No.
o KE190/40AL	65677

K215/XX Series

GAMA aluminium

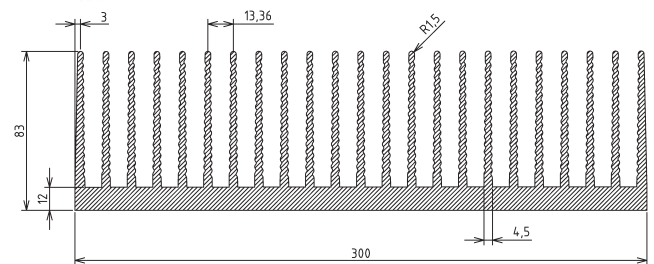


Part No.	Material/Surface Finish	Description
KE215/60AL	aluminium/non-anodised	L=60mm 215x77
KE215/80AL	aluminium/non-anodised	L=80mm 215x77

Part No.	Ord.No.
S KE215/60AL	65757
o KE215/80AL	65834

KE300/XX Series

GAMA aluminium

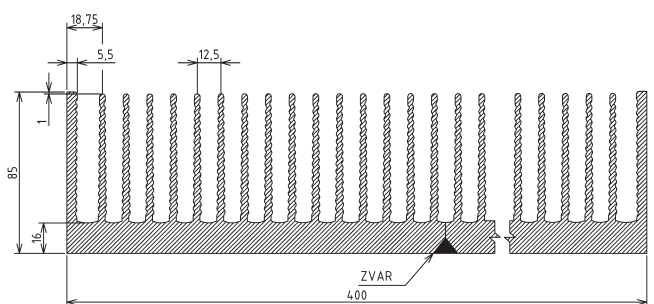


Part No.	Material/Surface Finish	Description
KE300/60AL	aluminium/non-anodised	L=60mm 300x83
KE300/80AL	aluminium/non-anodised	L=80mm 300x83

Part No.	Ord.No.
o KE300/60AL	65758
o KE300/80AL	65835

KE400/XX Series

GAMA aluminium



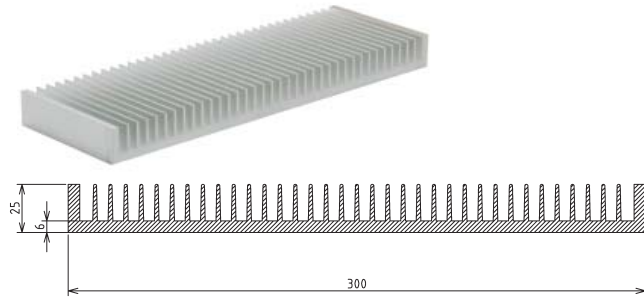
Part No.	Material/Surface Finish	Description
KE400/60AL	aluminium/non-anodised	L=60mm 400x85
KE400/80AL	aluminium/non-anodised	L=80mm 400x85

Part No.	Ord.No.
o KE400/60AL	65759
o KE400/80AL	65836

Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

KEA300/XX Series

GAMA aluminium

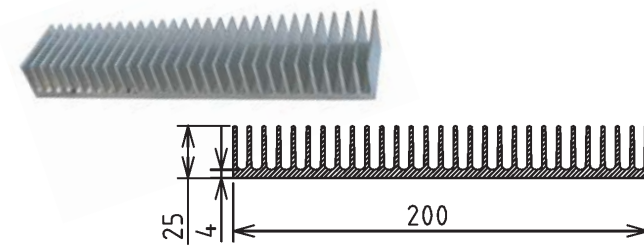


Part No.	Material/Surface Finish	Description
KEA300/40AL	aluminium/non-anodised	L=40mm 300x25

Part No.	Ord.No.
o KEA300/40AL	65681

KEAH200/XX Series

GAMA aluminium

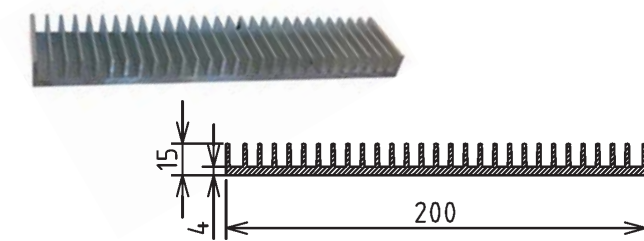


Part No.	Material/Surface Finish	Description
KEAH200/40AL	aluminium/non-anodised	L=40mm 200x25

Part No.	Ord.No.
s KEAH200/40AL	65682

KK200/XX Series

GAMA aluminium

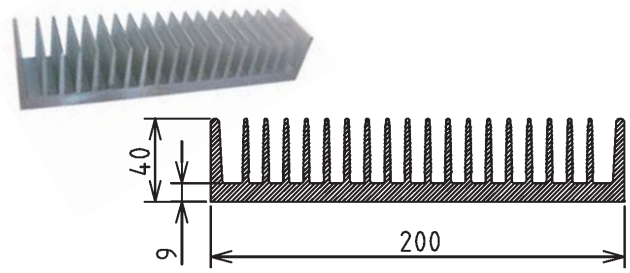


Part No.	Material/Surface Finish	Description
KK200/40AL	aluminium/non-anodised	L=40mm 200x15

Part No.	Ord.No.
s KK200/40AL	65683

IT4375/XX Series

GAMA aluminium

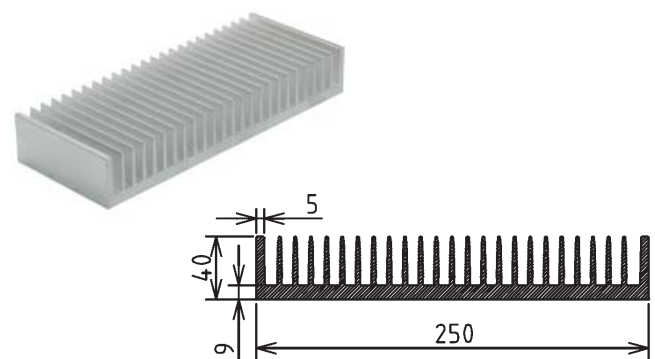


Part No.	Material/Surface Finish	Description
IT4375/40AL	aluminium/non-anodised	L=40mm 200x40
IT4375/60AL	aluminium/non-anodised	L=60mm 200x40

Part No.	Ord.No.
s IT4375/40AL	65662
o IT4375/60AL	65741

IT4376/XX Series

GAMA aluminium

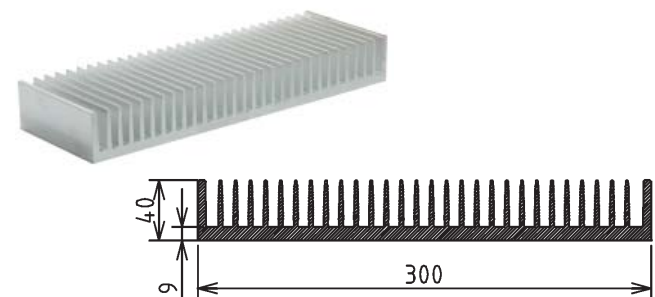


Part No.	Material/Surface Finish	Description
IT4376/40AL	aluminium/non-anodised	L=40mm 250x40
IT4376/60AL	aluminium/non-anodised	L=60mm 250x40

Part No.	Ord.No.
o IT4376/40AL	65663
o IT4376/60AL	65742

IT4377/XX Series

GAMA aluminium



Part No.	Material/Surface Finish	Description
IT4377/40AL	aluminium/non-anodised	L=40mm 300x40
IT4377/60AL	aluminium/non-anodised	L=60mm 300x40

Part No.	Ord.No.
o IT4377/40AL	65664
o IT4377/60AL	65743

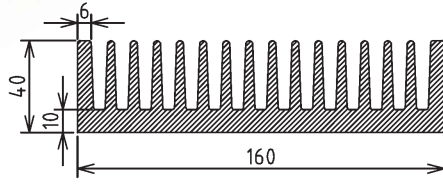
Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

Standard Heatsinks

(continued)

IT5303/XX Series

GAMAaluminium

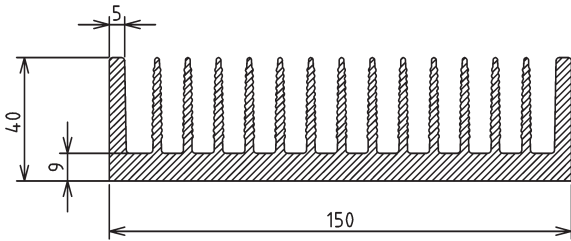


Part No.	Material/Surface Finish	Description
IT5303/40AL	aluminium/non-anodised	L=40mm 160x40
IT5303/60AL	aluminium/non-anodised	L=60mm 160x40

Part No.	Ord.No.
S IT5303/40AL	65665
O IT5303/60AL	65744

IT5498/XX Series

GAMAaluminium

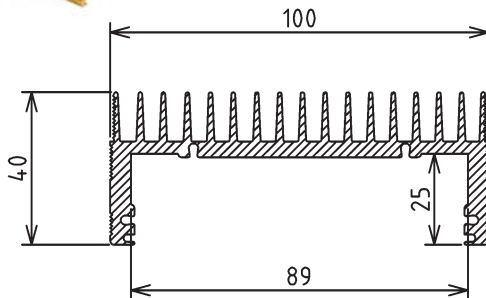


Part No.	Material/Surface Finish	Description
IT5498/40AL	aluminium/non-anodised	L=40mm 150x40

Part No.	Ord.No.
O IT5498/40AL	65666

C100/XX Series

GAMAaluminium

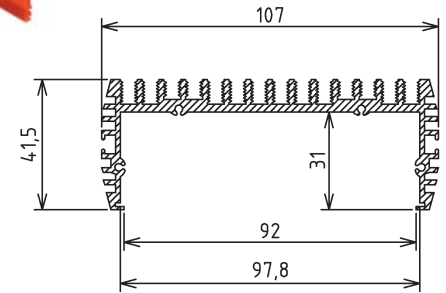
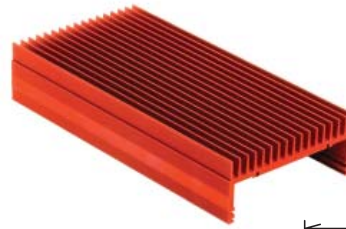


Part No.	Material/Surface Finish	Description
C100/40AL	aluminium/non-anodised	L=40mm 100x40

Part No.	Ord.No.
O C100/40AL	65653

C107/XX Series

GAMAaluminium

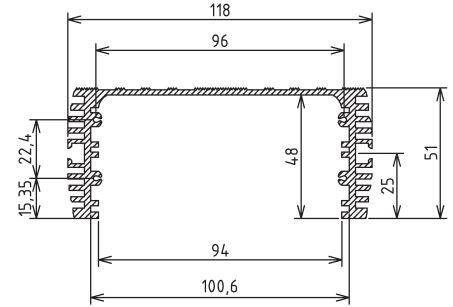


Part No.	Material/Surface Finish	Description
C107/40AL	aluminium/non-anodised	L=40mm 107x41,5

Part No.	Ord.No.
O C107/40AL	65654

C118/XX Series

GAMAaluminium

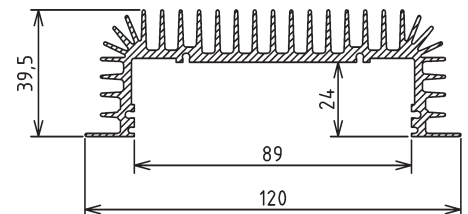
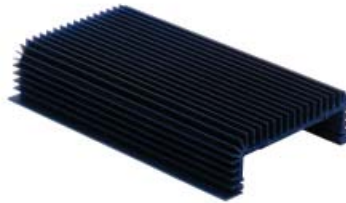


Part No.	Material/Surface Finish	Description
C118/40AL	aluminium/non-anodised	L=40mm 118x51

Part No.	Ord.No.
O C118/40AL	65655

C120/XX Series

GAMAaluminium

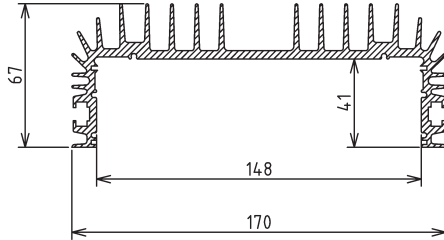
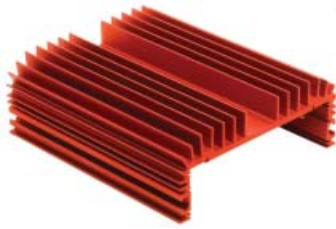


Part No.	Material/Surface Finish	Description
C120/40AL	aluminium/non-anodised	L=40mm 120x39,5

Part No.	Ord.No.
O C120/40AL	65656

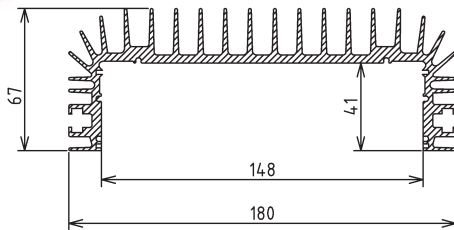
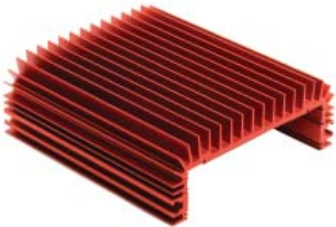
Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

C170/XX Series



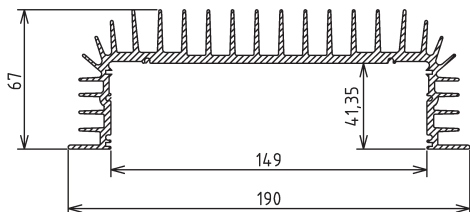
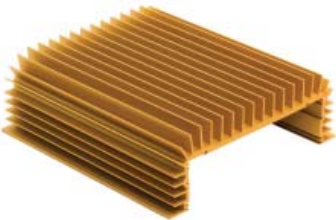
Part No.	Material/Surface Finish	Description
C170/40AL	aluminium/non-anodised	L=40mm 170x67
Part No.	Ord.No.	
o C170/40AL	65657	

C180/XX Series



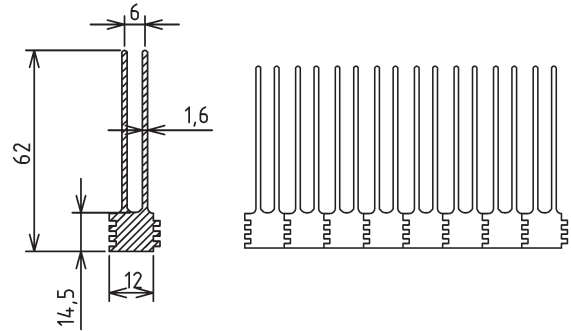
Part No.	Material/Surface Finish	Description
C180/40AL	aluminium/non-anodised	L=40mm 180x67
Part No.	Ord.No.	
o C180/40AL	65658	

C190/XX Series



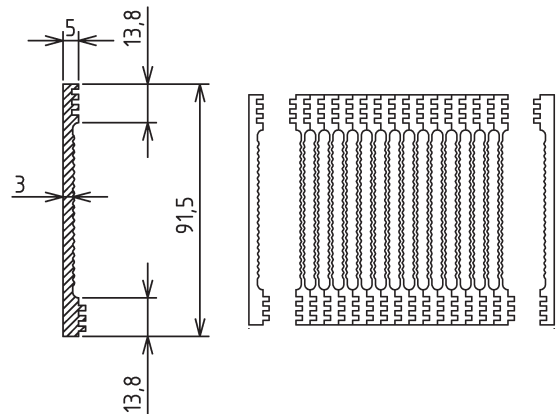
Part No.	Material/Surface Finish	Description
C190/40AL	aluminium/non-anodised	L=40mm 190x67
Part No.	Ord.No.	
o C190/40AL	65659	

I62D/XX Series



Part No.	Material/Surface Finish	Description
I62D/60AL	aluminium/non-anodised	L=60mm 12x62
Part No.	Ord.No.	
o I62D/60AL	65739	

I91MF/XX Series



Part No.	Material/Surface Finish	Description
I91MF/40AL	aluminium/non-anodised	L=40mm 5x91,5
I91MF/80AL	aluminium/non-anodised	L=80mm 5x91,5
I91MF/100AL	aluminium/non-anodised	L=100mm 5x91,5

On request.

Note: Heatsink dimensions are marked in mm.
Code "AL" - Aluminium/non-anodised,
Code "BK" - Aluminium Anodised Black.

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heatsinks

FISCHER ELEKTRONIK Heatsinks Overview

SK 461 D 28	SK 441 D 28	SK 458 D 28	SK 440 D 28	SK 498 D 28	SK 497 D 28	SK 162 A 57	SK 161 A 57	SK 160 A 57
SK 159 A 57	SK 144 A 83	SK 157 A 54	SK 191 A 55	SK 56 A 53	SK 93 A 55			
SK 158 A 57	SK 102 A 50	SK 479 A 55	SK 501 A 53	SK 438 A 52	SK 82 A 75			
SK 418 A 57	SK 101 A 54	SK 127 A 75	SK 435 A 82	SK 520 A 50	SK 130 A 55			
SK 139 A 53	SK 66 A 54	SK 109 A 81	SK 110 A 81	SK 141 A 80	SK 154 A 46	SK 193 A 50		
SK 439 A 55	SK 416 A 47	SK 190 A 52	SK 199 A 51	SK 91 A 52				
SK 510 A 47	SK 15 A 77	SK 53 A 74	SK 90 A 48	SK 149 A 52	SK 168 A 51	SK 502 A 49		
SK 33 A 43	SK 47 A 50	SK 568 A 54	SK 49 A 51	SK 83 A 79	SK 108 A 81			
SK 155 A 46	SK 163 A 78	SK 507 A 41	SK 198 A 53	SK 446 A 53	SK 523 A 54			
SK 524 A 52	SK 530 A 56	SK 555 A 51	SK 531 A 56	SK 533 A 56				
SK 534 A 56	SK 535 A 56	SK 536 A 56	SK 557 A 50					

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heatsinks

FISCHER ELEKTRONIK Heatsinks Overview

SK 537 A 56		SK 538 A 56		SK 539 A 56				
SK 540 A 56				SK 569 B 34	SK 570 B 34	SK 571 B 34	SK 572 B 34	
SK 57 A 64	SK 61 A 83	SK 86 A 75	SK 118 A 51		SK 466 A 44	SK 467 A 33		
SK 519 A 48	SK 412 A 47	SK 88 A 73	SK 98 A 65	SK 121 A 43	SK 411 A 43	SK 491 A 33	SK 503 A 47	SK 506 A 39
SK 43 A 69	SK 67 A 69	SK 119 A 47		SK 137 A 69	SK 148 A 68	SK 02 A 66	SK 42 A 49	
SK 71 A 64	SK 80 A 74		SK 85 A 46	SK 94 A 49		SK 113 A 49		SK 120 A 45
SK 136 A 48		SK 194 A 82	SK 404 A 65	SK 40 A 83	SK 89 A 77	SK 140 A 77	SK 463 A 44	SK 135 A 40
SK 58 A 45		SK 132 A 44		SK 133 A 45		SK 147 A 74	SK 197 A 65	SK 413 A 44
SK 415 A 90		SK 504 A 45		SK 30 A 67	SK 34 A 67	SK 06 A 80	SK 23 A 80	SK 556 A 77
SK 195 A 71	SK 408 A 41	SK 442 A 43	SK 464 A 40	SK 172 A 82	SK 176 A 78	SK 455 A 32	SK 92 A 42	SK 50 A 38
SK 166 A 49		SK 04 A 63	SK 20 A 68		SK 403 A 64	SK 410 A 45	SK 184 A 68	

	< 1 K/W		1-1,5 K/W		1,5-2 K/W		2-2,5 K/W
	2,5-3 K/W		3-4 K/W		4-5 K/W		> 5 K/W

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heatsinks

FISCHER ELEKTRONIK Heatsinks Overview

SK 417 	A 46	SK 421 	A 48	SK 429 	A 37	SK 433 	A 42	SK 401 	A 63	SK 08 	A 73	SK 39 	A 67				
SK 74 	A 71	SK 432 	A 83	SK 453 	A 32	SK 14 	A 67	SK 46 	A 79	SK 60 	A 74	SK 84 	A 68	SK 527 	A 36	SK 124 	A 71
SK 79 	A 73	SK 100 	A 39	SK 111 	A 82	SK 436 	A 38	SK 450 	A 34	SK 489 	A 86	SK 419 	A 70	SK 03 	A 66	SK 54 	A 79
SK 187 	A 76	SK 407 	A 40	SK 97 	A 62	SK 508 	A 42		SK 134 	A 28	SK 505 	A 42		SK 72 	A 63		
SK 11 	A 79	SK 16 	A 72	SK 44 	A 90		SK 544 	A 76	SK 73 	A 64		SK 105 	A 90				
SK 175 	A 84	SK 402 	A 62	SK 434 	A 35	SK 445 	A 34	SK 499 	A 88	SK 05 	A 62	SK 405 	A 48		SK 64 	A 70	
SK 18 	A 61	SK 189 	A 31	SK 406 	A 39	SK 487 	A 88	SK 514 	A 87	SK 484 	A 108		SK 475 	A 35	SK 01 	A 66	
SK 25 	A 61	SK 28 	A 63	SK 48 	A 73	SK 52 	A 74	SK 63 	A 61	SK 81 	A 41		SK 481 	A 86	SK 483 	A 88	
SK 19 	A 63	SK 518 	A 92	SK 457 	A 76	SK 165 	A 60	SK 182 	A 40	SK 185 	A 73	SK 414 	A 90	SK 45 	A 62		
SK 181 	A 59	SK 69 	A 71		SK 426 	A 36	SK 65 	A 70	SK 07 	A 72	SK 32 	A 76	SK 68 	A 89	SK 425 	A 34	
SK 482 	A 87	SK 51 	A 60	SK 106 	A 30	SK 424 	A 33	SK 517 	A 92	SK 112 	A 89	SK 495 	A 87	SK 55 	A 84	SK 99 	A 37

Standard Heatsinks

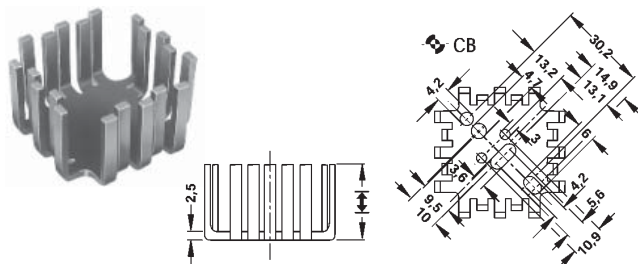
(continued)



Heatsinks and systems for semiconductors:

- Small heatsinks
- Extruded heatsinks, about 300 profiles
- Finger-shaped heatsinks, about 50 basic types
- Heatsinks for thyristors
- Heatsinks for solid state relays
- Heatsinks for IGBT's
- SMD-Heatsinks
- CPU-Heatsinks
- Heatsinks for PGA's
- Heatsinks for BGA's
- Cooling aggregates
- Heatsinks with pressed-in fins
- Fluid coolers
- Thermally conductive foil

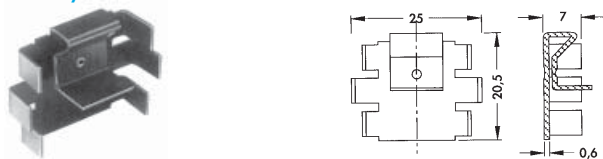
FK 201/SA/CB



Part No.	Rth	Mat./Surface	for Transistor	Height	Width
FK 201/SA/CB	6 K/W	aluminium black anodised	TO-3, TO-66, SOT-9, SOT-32	25,4mm	45mm

Part No.	Ord.No.
S FK 201/SA/CB	20128

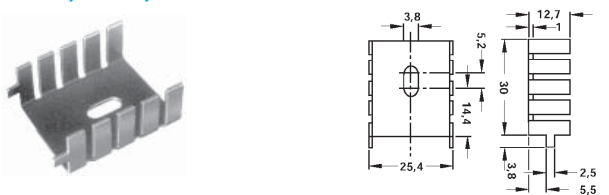
FK 220/SA-220



Part No.	Rth	Mat./Surface	for Transistor	Height	Width
FK 220/SA220	25 K/W	aluminium black anodised with clip	TO-220	20.5mm	25mm

Part No.	Ord.No.
S FK 220/SA-220	20125

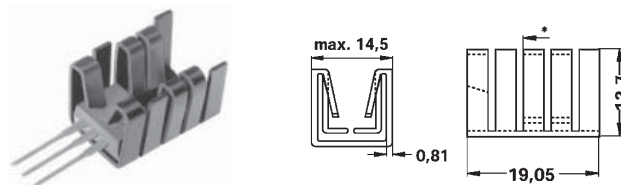
FK222/220/SA



Part No.	Rth	Mat./Surface	for Transistor	Height	Width
FK 222/220/ SA	20 K/W	aluminium black anodised	TO-220, solder lug for vertical installation	12.7mm	25.4mm

Part No.	Ord.No.
S FK 222/220/SA	20123

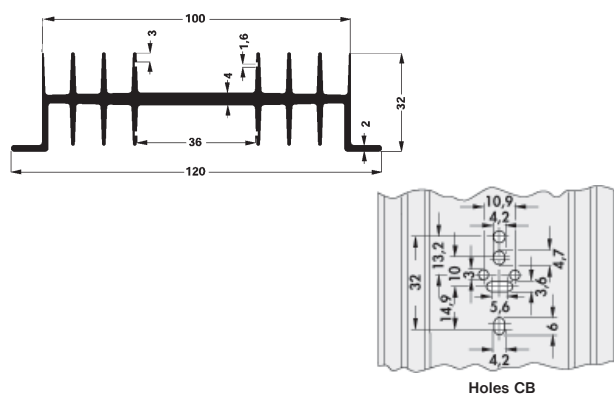
FK 237/SA-220 Series



Part No.	Rth	Mat./Surface	for Transistor	Height	Width
FK 237/SA-220 H	21 K/W	aluminium black anodised	TO-220, solder lug for horizontal installation	12.7mm	14.5mm
FK 237/SA-220 O	21 K/W	aluminium black anodised	TO-220 without solder lug	12.7mm	14.5mm
FK 237/SA-220 V	21 K/W	aluminium black anodised	TO-220 solder lug for vertical installation	12.7mm	14.5mm

Part No.	Ord.No.
S FK 237/SA-220 H	5575
S FK 237/SA-220 O	8009
O FK 237/SA-220 V	8010

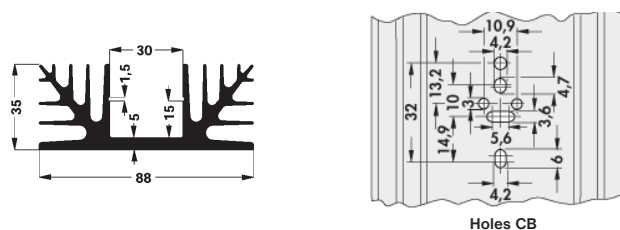
SK 03/100/SA/CB Series



Part No.	Rth	Mat./Surface	for Transistor	Length
SK 03/100/ SA/CB	1.8 K/W	aluminium/ black anodised	TO-3, TO-66, SOT-9, SOT-32 with guide away for cover pla- tes or blanks	100mm

Part No.	Ord.No.
S SK 03/100/SA/CB	3017

SK 08 Series



Part No.	Rth	Mat./Surface	for Transistor	Length
SK 08 37,5 AL	2.7 K/W	aluminium/non- anodised	TO-3, TO-66, SOT-9, SOT-32 with guide away for cover pla- tes or blanks	37.5mm
SK 08/50/ SA/CB	2.3 K/W	aluminium/ black anodised	TO-3, TO-66, SOT-9, SOT-32 with guide away for cover pla- tes or blanks	50mm

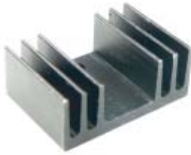
Part No.	Ord.No.
S SK 08 37,5 AL	8320
S SK 08/50/SA/CB	8020

Standard Heatsinks

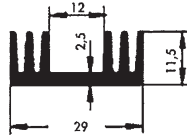
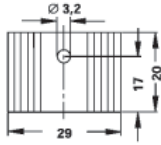
(continued)

SK 09 Series

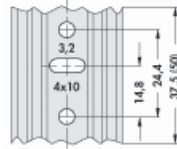
fischer elektronik



SK 09/20/SA/
TO220



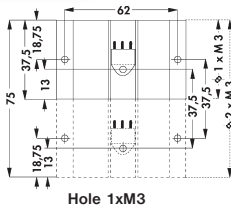
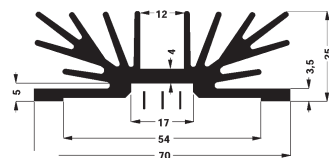
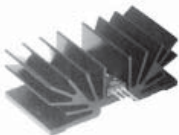
SK 09/37,5/SA/K



Part No.	Rth	Mat./Surface	for Transistor	Length
SK 09 20 SA TO 220	16 K/W	aluminium/black anodised	TO-220	20mm
SK 09 37,5 SA K	11 K/W	aluminium/black anodised	TO-220, SOT-32	37.5mm
Part No.	Ord.No.			
s SK 09 20 SA TO 220	20129			
s SK 09 37,5 SA K	20130			

SK 64 Series

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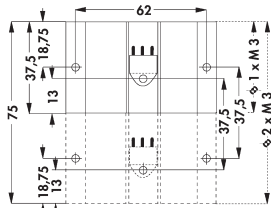
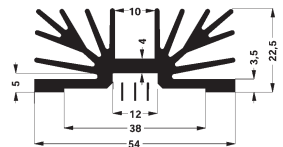
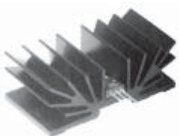


Hole 1xM3

Part No.	Rth	Mat./Surface	for Transistor	Length
SK 64 37,5 AL	2.7 K/W	aluminium/non-anodised	TO-220 without holes	37.5mm
SK 64/37,5/SA/1XM3	2.7 K/W	aluminium/black anodised	TO-220	37.5mm
Part No.	Ord.No.			
s SK 64 37,5 AL	6984			
s SK 64/37,5/SA/1XM3	8017			

SK 65/37,5/SA/1xM3 Series

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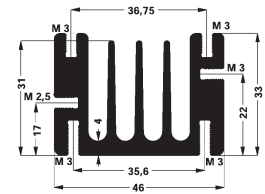


Hole 1xM3

Part No.	Rth	Mat./Surface	for Transistor	Length
SK 65/37,5/SA/1XM3A	3.6 K/W	aluminium/black anodised	SOT-32	37.5mm
Part No.	Ord.No.			
s SK 65/37,5/SA/1XM3	20136			

SK 68/50/SA Series

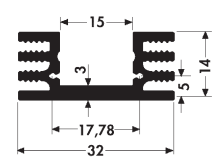
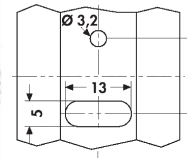
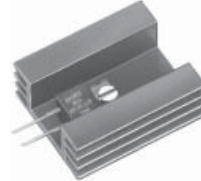
fischer elektronik



Part No.	Rth	Mat./Surface	Description	Length
SK 68/50/SA	5K/W	aluminium/black anodised	profile threads	50mm
Part No.	Ord.No.			
s SK 68/50/SA	8019			

SK 75/37,5/SATO 220 Series

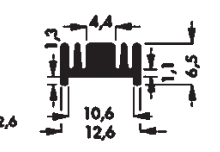
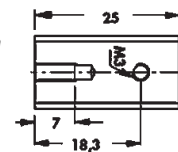
fischer elektronik



Part No.	Rth	Mat./Surface	for Transistor	Length
SK 75/37,5/SA220	10K/W	aluminium/black anodised	SOT 32, TO-220 without solder pins	37.5mm
Part No.	Ord.No.			
s SK 75/37,5/SA220	8016			

SK 95/25/SATO220 Series

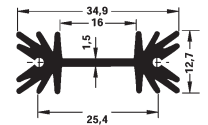
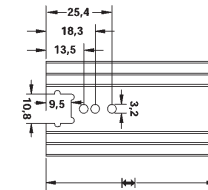
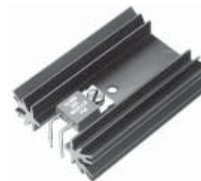
fischer elektronik



Part No.	Rth	Mat./Surface	for Transistor	Length
SK 95/25/SA	36K/W	aluminium/black anodised	SOT-32, TO-220	25mm
Part No.	Ord.No.			
s SK 95/25/SA	64497			

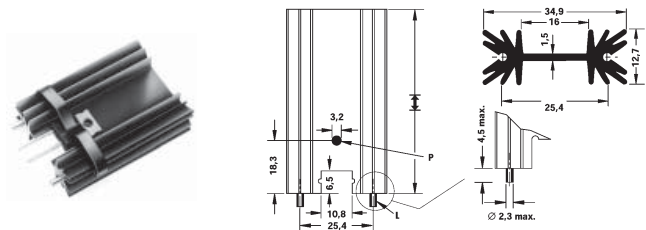
SK 104 LS Series

fischer elektronik



Part No.	Rth	Mat./Surface	for Transistor	Length
SK 104/25,4/LS	14 K/W	aluminium/black anodised	TO-220, horizontal for semiconductor-screw on mounting	25,4mm
SK 104/38,1/LS	11 K/W	aluminium/black anodised	TO-220, horizontal for semiconductor-screw on mounting	38.1mm
SK 104/50,8/LS	9 K/W	aluminium/black anodised	TO-220, horizontal for semiconductor-screw on mounting	50.8mm
Part No.	Ord.No.			
s SK 104/25,4/LS	10009			
s SK 104/38,1/LS	2404			
s SK 104/50,8/LS	2403			

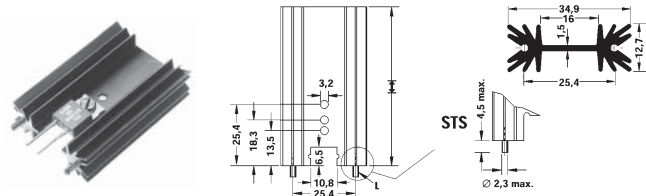
SK 104 STC Series



Part No.	Rth	Mat./Surface	for Transistor	Length
SK 104/25,4/STC/TO220	14 K/W	aluminium/black anodised	TO-220 with solder pins clip THF104 required	25,4mm
SK 104/38,1/STC/TO220	11 K/W	aluminium/black anodised	TO-220 with solder pins clip THF104 required	38,1mm

Part No.	Ord.No.
S SK 104/25,4/STC/TO220	8011
S SK 104/38,1/STC/TO220	8012

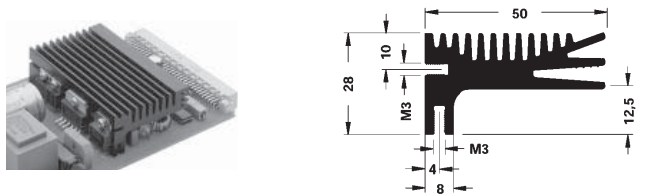
SK 104 STS Series



Part No.	Rth	Mat./Surface	for Transistor	Length
SK 104/25,4/STS	14 K/W	aluminium/black anodised	TO-220 with solder pins and insulating ring	25,4mm
SK 104/38,1/STS	11 K/W	aluminium/black anodised	TO-220 with solder pins and insulating ring	38,1mm
SK 104/50,8/STS	9 K/W	aluminium/black anodised	TO-220 with solder pins and insulating ring	50,8mm

Part No.	Ord.No.
S SK 104/25,4/STS	25670
S SK 104/38,1/STS	25671
S SK 104/50,8/STS	8015

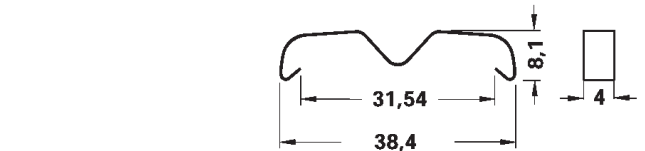
SK 451/84/SA



Part No.	Rth	Mat./Surface	for Transistor	Width
SK 451/84/SA	4 K/W	aluminium/black anodised	TO220, TO218, PEN-TAWATT for use on Euro cards, profile thread	84mm

Part No.	Ord.No.
S SK 451/84/SA	8018

THF 104



Part No.	Description
THF 104	for transistor-design TO 220, TO 3 P, TO 247, TO 248 suitable for heatsinks SK104

Part No.	Ord.No.
S THF 104	8014

D xx Series



Part No.	Thermal Res.	Material/Surface Finish	Description
D 01	27 K/W	Aluminium/non-anodised	A=12,7mm
D 01 A	21 K/W	Aluminium/black anodised	A=12,7mm
D 02	28 K/W	Aluminium/non-anodised	A=9,53mm
D 02 A	22 K/W	Aluminium/black anodised	A=9,53mm
D 03	31 K/W	Aluminium/non-anodised	A=6,35mm

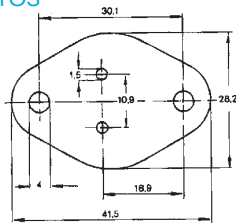
Part No.	Ord.No.
S D 01	2339
S D 01 A	6417
S D 02	2469
S D 02 A	2462
S D 03	4944

Thermal Interface Materials

Mica Wafer

- thickness: 0,05mm
- should be used with thermal transfer paste
- minimum ordering quantity is 10pcs

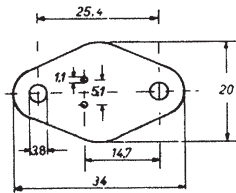
GS-TO3



Part No.	Suitable for	Insulating Voltage	Temperature	Thermal Resistance
GS-TO3	TO-3	2,5 kV	550°C	0,3 K/W

Part No.	Ord.No.
S GS-TO3	13283

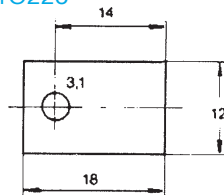
GS-TO66



Part No.	Suitable for	Insulating Voltage	Temperature	Thermal Resistance
GS-TO66	TO-66	2,5 kV	550°C	0,8 K/W

Part No.	Ord.No.
S GS-TO66	13284

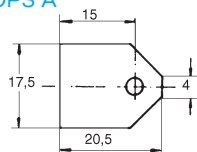
GS-TO220



Part No.	Suitable for	Insulating Voltage	Temperature	Thermal Resistance
GS-TO220	TO-220	2,5 kV	550°C	1,2 K/W

Part No.	Ord.No.
S GS-TO220	13287

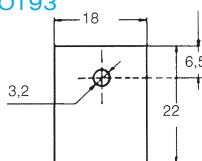
GS-TOP3 A



Part No.	Suitable for	Insulating Voltage	Temperature	Thermal Resistance
GS-TOP3 A	TOP-3	2,0 kV	550°C	0,8 K/W

Part No.	Ord.No.
S GS-TOP3 A	13288

GS-SOT93



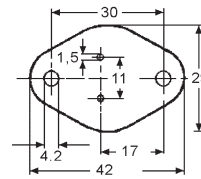
Part No.	Suitable for	Insulating Voltage	Temperature	Thermal Resistance
GS-SOT93	SOT-93	2,0 kV	550°C	0,8 K/W

Part No.	Ord.No.
S GS-SOT93	21936

Silicone Wafers

- thickness: 0,3mm
- working temperature range -60°C to +200°C
- no thermal transfer paste needed

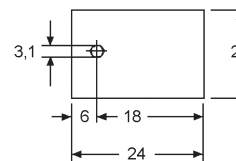
SIS30-TO3



Part No.	Suitable for	Insulating Voltage	Temperature	Thermal Resistance
SIS30-TO3	TO-3	7,0 kV	200°C	0,45 K/W

Part No.	Ord.No.
S SIS30-TO3	22509

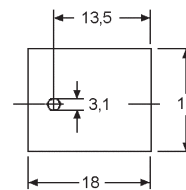
SIS30-TOP3



Part No.	Suitable for	Insulating Voltage	Temperature	Thermal Resistance
SIS30-TOP3	TOP-3	7,0 kV	200°C	0,45 K/W

Part No.	Ord.No.
S SIS30-TOP3	22510

SIS30-TO220



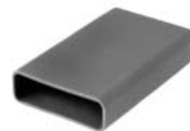
Part No.	Suitable for	Insulating Voltage	Temperature	Thermal Resistance
SIS30-TO220	TO-220	7,0 kV	200°C	0,45 K/W

Part No.	Ord.No.
S SIS30-TO220	22511

Transistor Insulating Tube

TO-3P

Silicone insulating tube, suitable for transistors, 28,5x17,5x5,8mm..



Part No.	Ord.No.
S TO-3P	62608

Thermal Transfer Paste

HTC

Non-Silicone Thermal Transfer Paste. High thermal conductivity- 0,9 W/mK. Operating temperature range -50°C to +130 °C.



Part No.	Ord.No.
S HTC 02 S, 2ml	6353
S HTC 10 S, 10ml	6354

WARMELEITPASTE

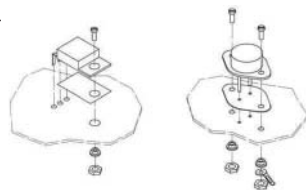
Thermal Transfer Silicon Paste. Thermal conductivity - 1W/mK. Operating temperature range -30°C to +200 °C.



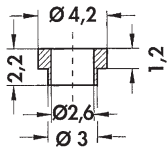
Part No.	Ord.No.	Temp.
S WARMELEITPASTE 1kg	63294	200°C
S WARMELEITPASTE 35g	40267	200°C
S WARMELEITPASTE 5g	14301	200°C

Insulating Bushes

- For use with screw mounted transistors
- Isolate transistors from heatsinks
- Nylon construction



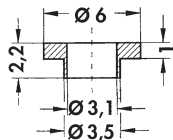
IB 4



Part No.	Suitable for	Insulating Voltage	Temperature
IB 4	TO-126	>30 KV/mm	170°C

Part No.	Ord.No.
S IB 4	5577

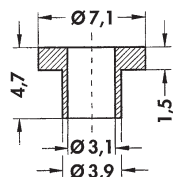
IB 6



Part No.	Suitable for	Insulating Voltage	Temperature
IB 6	TO-220, TOP-3	>30 KV/mm	163°C

Part No.	Ord.No.
S IB 6	13290

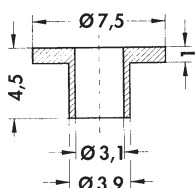
IB 1



Part No.	Suitable for	Insulating Voltage	Temperature
IB 1	TO-3	>30 KV/mm	170°C

Part No.	Ord.No.
S IB 1	13289

IB 14

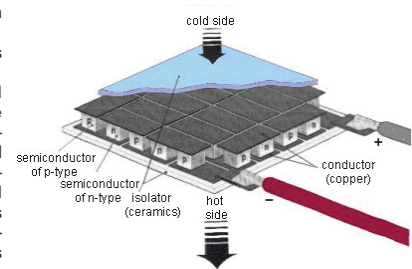


Part No.	Suitable for	Insulating Voltage	Temperature
IB 14	TO-3	>38 KV/mm	200°C

Part No.	Ord.No.
S IB 14	22518

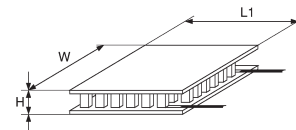
Peltier Modules

Peltier modules, also known as thermoelectric modules, are small solid-state devices that function as heat pumps. When a DC current is applied heat is moved from one side of the device to the other - where it must be removed with a heatsink. The "cold" side is commonly used to cool an electronic device such as a microprocessor or a photodetector. If the current is reversed the device makes an excellent heater.



Advantages:

- No moving parts
- Small and lightweight
- Maintenance free
- Solid state reliability
- Acoustically silent and electrically "quiet"
- Heating or cooling
- Wide operating temperature range
- Highly precise temperature control
- Low power requirements (DC powered)
- Localized (spot) cooling
- Processing temperatures to 200°C
- Operation in any orientation
- Operation in zero gravity and high G-levels
- Environmentally friendly



Applications:

- For avionics/electronic package cooling
- Compact heat exchangers
- Precision device cooling (lasers and microprocessors)
- Long lasting cooling devices
- Small portable/stationary refrigeration
- Wafer thermal characterization
- Silicon wafer cooling
- Charge coupled device coolers
- Constant temperature baths
- Dewpoint hygrometers
- Electrophoresis cell coolers
- Infrared detectors
- Integrated circuit coolers
- Laser diode coolers

6300 / 127 / 060AX						
1.	2.	3.	4.	5.	6.	7.
1. Product Line						
63 = 150°C Maximum operating temperature						
95 = 200°C Maximum operating temperature						
2. Shape						
0 = Standard module						
1 = Undesignated						
2 = 2 stage module						
3 = 3 stage module						
3. Classification number						
0 = Standard module						
1 = Small size module						
2 = Miniature module						
3 = Modules configured for laser diode applications						
4 = High current module						
4. Number of couples						
5. Maximum current						
0.1 Ampere increments						
6. Substrate specification						
A. Standard type—plain ceramic surface						
■ Miniature module (+0.15mm height tolerance)						
■ Standard module (+0.25mm height tolerance)						
■ 2 stage module (+0.35mm height tolerance)						
B. Lapped type – plain ceramic surface						
■ Miniature module (No specification)						
■ Standard module (+0.025mm height tolerance)						
■ 2 stage module (+0.25mm height tolerance)						
H. Solderable metalized ceramic on hot side external surface						
M. Solderable metalized ceramic on both hot and cold side external surface						
7. Options						
S = RTV seal						

Part No.	I _{max} [A]	Q _{max} [W]	V _{max} [V]	DT _{max} [°C]s	W [mm]	L [mm]	H [mm]
PELTIER 6300/127/040	4	38	17,5	72	39,7	39,7	4,16
PELTIER 6300/127/060	6	57	17,5	72	39,7	39,7	4,16
PELTIER 6300/127/085	8,5	80	17,5	72	39,7	39,7	3,94
PELTIER 6301/127/030	3	29	15	72	30	30	4,16
PELTIER 6301/127/040	4	36	15	72	30	30	4,16

Part No.	Ord.No.
S PELTIER 6300/127/040	1828
S PELTIER 6300/127/060	1829
S PELTIER 6300/127/085	1830
S PELTIER 6301/127/030	52478
S PELTIER 6301/127/040	52479



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