

Sensor	SHT30 SHT30A	SHT31 SHT31A	SHT35 SHT85 SHT35A	STS30 STS30A	STS31 STS31A	STS35	SHT30-ARP	SHT31-ARP	SHTC3	SHT40	SHT41	SHT45	SHT40I	SHT41I	SHT40A	SHT41A	STS40	SHT40I-HD1B														
Status	Recommended for New Designs									Recommended for New Designs																						
Typ. RH Accuracy (%RH)	SHT30: ±2% @10...90% RH SHT30A: ±3% @10...90% RH		±2% @0...100% RH		±1.5% @0...80% RH					±3% @10...90% RH		±2% @0...100% RH		±2% @20...80% RH		±1.8% @30...70% RH		±1.8% @30...70% RH		±1% @20...70% RH		±2% @20...80% RH		±2% @10...90% RH		±2% @0...100% RH		±2.5% @20...80% RH				
RH meas. range (%)	0 to 100												0 to 100						0 to 100													
Typ. T Accuracy (°C)	SHT30: ±0.2% @0...65°C SHT30A: ±0.3% @0...65°C		SHT31: ±0.2% @0...90°C SHT31A: ±0.3% @-40...90°C		SHT35: ±0.1% @20...60°C SHT85: ±0.1% @20...50°C SHT35A: ±0.2% @-40...90°C		STS30: ±0.2% @0...65°C STS30A: ±0.3% @0...65°C		STS31: ±0.2% @0...90°C STS31A: ±0.3% @-40...90°C		±0.1% @20...60°C		±0.3% @0...65°C		±0.3% @0-90°C		±0.2% @5...60°C		±0.2% @0...65°C		±0.2% @0...65°C		±0.2% @0...65°C		±0.3% @0...65°C		±0.3% @0...90°C		±0.2% @0...65°C		±0.3% @0...65°C	
T meas. range (°C)	-40...125°C						-40...125°C						-40...125°C						-40...125°C													
RH Response Time τ63% (s)	8						8						4						4													
T Response Time τ63% (s)	>2						>2						>2						2													
Interface	I2C, 1MHz						Analog voltage 10...90% VDD						I2C, 1MHz						Analog voltage 10...90% VDD													
I2C Address	0x44, ADDR=L 0x45, ADDR=H SHT85: 0x44			CRC8			0x4A, ADDR=L 0x4B, ADDR=H			CRC8			AD1B: 0x44 BD1B: 0x45						AD1B: 0x44 BD1B: 0x45 CD1B: 0x46													
CRC checksum for measured values	CRC8						CRC8						CRC8						CRC8													
Method to determine measured data availability	Clock stretching Polling									Polling																						
Measurement mode	Single shot, periodic (0.5, 1, 2, 4, 10 meas./s)									Single shot																						
VDD Range (V)	2.15...5.5						2.4...5.5			1.62...3.6			1.08...3.6			2.3...5.5			1.08...3.6 V			4.5...5.5										
ESD HBM Immunity (Human body model)	4kV						2kV			2kV			4kV			4kV			2kV			4kV										
ESD CDM Immunity (Charge device model)	750V						500V			500V			750V			750V			500V			750V										
Typ. Current consumption: measurement mode (µA)	600						430			320			350			320			320			320										
Typ. Current consumption: idle mode (µA)	0.2						0.3			0.08			18			18			0.1			0.1										
Typ. Meas. Duration: T (ms)																																
Typ. Meas. Duration: RH (ms)																																
Typ. Meas. Duration: RH + T (ms)	2.5, low repeability, 4.5, medium repeability, 12.5, high repeability									10.8									1.3, low repeability, 3.7, medium repeability, 6.9, high repeability													
Avg. current consumption (µA): (1 RH and T meas./s single shot mode, the best accuracy or high repeability)	7.7						220 (2 meas./s)			4.9			2.2			20.3			20			2.2			520 (2 meas./s)							
Protection	SF2 filter cap Integrated filter (F option) Protective tape (P option)			SF2 filter cap			SF2 filter cap Integrated filter (F option) Protective tape (P option)			SF2 filter cap			SF2 filter cap			SF2 filter cap			SF2 filter cap													
Integrated heater	Y functionality check			Y functionality check			Y functionality check			Y functionality check			Y variable power, variable ON time			N			Y power and ON time set in factory													
Other Features	Reset pin Alert pin, RH and T programmable limits ART (accelerated response time) SHT3xA: AEC-Q100			Reset pin Alert pin, RH and T programmable limits ART (accelerated response time) SHT3xA: AEC-Q100			Reset pin			Reset pin			Fully functional in condensing environment			Fully functional in condensing environment			AEC Q100 Designed for 85°C/85%RH reliability testing Fully functional in condensing environment Package with Wetttable Flanks													
Package	DFN8 2.5x2.5x0.9mm						DFN8 2.5x2.5x0.9mm			DFN4 2x2x0.75mm			DFN4 1.5x1.5x0.5mm			DFN4 1.5x1.5x0.5mm			DFN4 1.5x1.5x0.5mm													