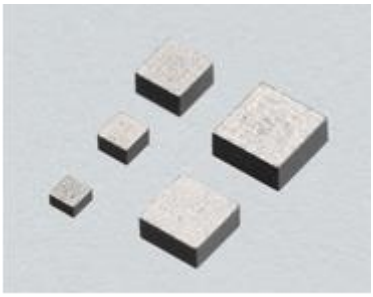
NTC Thermistor

Thermistor element



Model No. HST

Thermistor element

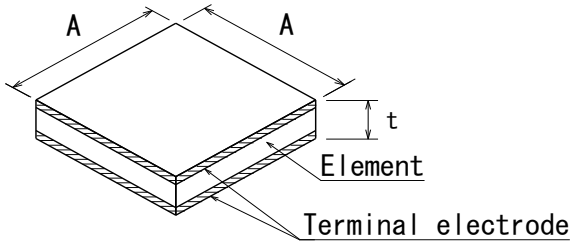
◆Features: High accuracy, High reliability
High solder heat resistance

◆Component Parts

	Parts name	Specifications/Materials
1	Element	NTC Thermistor
2	Terminal electrode	Ag-Pd electrode

◆Size

Part number	A[mm]	t[mm]
HST12	1.2±0.1	0.45±0.07
HST10	1.0±0.1	0.45±0.07
HST08	0.8±0.1	0.45±0.07
HST05	0.5±0.05	0.33±0.05
HST04	0.4±0.05	0.23±0.05



◆Part Number Designations/Type Designations

HST□□ - □□□□ □ □ - □ □□□□ □

① ② ③ ④ ⑤ ⑥ ⑦

ex. HST10-103FB-A4100H
HST10-1002FB-B3435F

①	Series code	NTC Solid Thermistor	
	Size	04	□0.4mm
		05	□0.5mm
		08	□0.8mm
		10	□1.0mm
		12	□1.2mm
②	Resistance	3-digit display e.g., 502→50×10² Ω 4-digit display ex. 9981→998×10¹ Ω	
③	Resistance tolerance	D	0.5%
		E	0.75%
		F	1%
		G	2%
		H	3%
		J	5%

④	Packing	B	Bulk
⑤	Definition of B-constant	A	B25/50
		B	B25/85
		C	B0/100
		D	B0/25
		E	B25/100
		X	Individual designation Individual designation
⑥	B-constant	4-digit display ex. 4100→4100K	
⑦	B-constant tolerance	D	0.5%
		E	0.75%
		F	1%
		G	2%
		H	3%
		J	5%

◆Rated Power 110mW at 25° C

◆Operating Temperature Range -40° C to +125° C

◆Resistance Value/Resistance R25 1kΩ-1MΩ ※Refer to product list

◆B-constant B25/50 3200K - 4500K ※Refer to product list

◆Dissipation constant 1.1mW/℃ ※In still air at 25℃

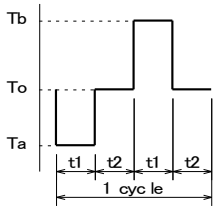
Product list for Characteristics

B-constant		Part number	Resistance Value R25 [Ω]													
B25/50 [K]	B25/85 [K]		1k	2k	3k	5k	10k	15k	20k	30k	50k	100k	200k	300k	500k	1M
3250 ～ 3300	3300 ～ 3350	HST04 HST05	●	●	●	●	●	●	●							
		HST08				●	●									
		HST10				●										
		HST12			●											
3350 ～ 3400	3400 ～ 3500	HST04 HST05		●	●	●	●	●	●							
		HST08		●	●	●	●	●								
		HST10	●	●	●	●	●									
		HST12			●	●	●									
3450 ～ 3500	3500 ～ 3550	HST04 HST05		●	●	●	●	●	●							
		HST08			●	●	●	●								
		HST10		●	●	●	●									
		HST12			●	●										
3950 ～ 4000	4000 ～ 4050	HST04 HST05		●	●	●	●	●	●	●	●	●				
		HST08		●	●	●	●	●	●	●	●	●	●			
		HST10	●	●	●	●	●	●	●	●	●	●				
		HST12				●	●	●	●	●	●					
4100 ～ 4150	4150 ～ 4200	HST04 HST05					●			●		●				
		HST08						●	●							
		HST10					●				●					
		HST12								●						
4200 ～ 4250	4250 ～ 4300	HST04 HST05									●	●	●	●		
		HST08											●			
		HST10										●				
		HST12														
4400 ～ 4500	4450 ～ 4550	HST04 HST05											●		●	●
		HST08										●			●	●
		HST10										●		●	●	●
		HST12									●		●			

Please inquire for characteristics other than the above.

Reliability Testing

◆HST

Item		Test Method/Conditions		SPEC
1	High temperature Storage Test	125° C ± 3° C, 1000hr ± 24hr		Rate of resistance change ±3% There should be no abnormalities in appearance.
2	Low temperature storage test	-40° C ± 3° C, 1000 hours ± 24 hours		
3	Humidity storage test	60° C ±3° C, 90-95% RH, 1000 hours ±24 hours		
4	Temperature cycle test	Ta: -40° C ± 3° C (air) To: 20° C ±5° C (air) Tb: 125° C ± 3° C (air) t1=10 min, t2<60 s 1000 cycles		
5	Resistance to solder heat	260° C ± 5° C, 5s ± 1s Sn-3Ag-0.5Cu	270° C ± 5° C, 5s ± 1s Sn-0.7Cu-0.05Ni	
6	Solderability	245° C ± 5° C, 2s ± 0.5s Sn-3Ag-0.5Cu	270° C ± 5° C, 1s ± 0.5s Sn-0.7Cu-0.05Ni	More than 90% of the terminal electrode shall be covered with new solder.

◆RoHS Compliance

These products are pursuant to EU-RoHS directive (2011/65/EU).

◆Precautions for Handling

1) These products are thermistor elements that have been developed for soldering.
2) Glass sealing for this product is also available. However, the resistance value (R25) changes. Depending on your processing method. After discussing the resistance value (R25) considering your processing methods with each other, we will determine individual specifications.
3) Resistance value (R25) tolerances and B constant tolerance are guaranteed values for the thermistor element alone; we do not guarantee the tolerance of the product after processing.
4) These products are made of ceramic. Do not apply excessive pressure or subject them to mechanical shock. Such mechanical force may cause cracking or chipping of these ceramic products.
5) When handling these products, we recommend using plastic tweezers to avoid breaking the thermistor element.