PTC Thermistors for Overcurrent Protection

SMDs, EIA Size 1210, 24 V, 63 V

Series/Type: B59606, B59607, B59707

Release:

Date:

SMD

Applications

- Overcurrent protection
- Short-circuit protection

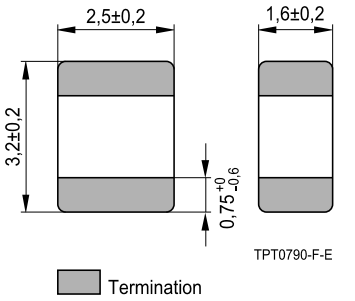
Features

- Thermistor chip with lead-free tinned terminations
- Small size
- Short response times
- Suitable for reflow soldering only
- Suitable for automatic placement

Delivery mode

- Blister tape, 180-mm reel

Dimensional drawing



Dimensions in mm

General technical data

Switching cycles		N	100	
Tolerance of R_R		ΔR_R	±25	%
Operating temperature range	(V = 0)	T_{op}	−40/+125	°C
	($V = V_{max}$)	T_{op}	0/+60	°C

Electrical specifications and ordering codes

Type	I_R [1] mA	I_S [1] mA	I_{Smax} ($V = V_{max}$) A	T_{ref} °C	R_R Ω	R_{min} Ω	Ordering code
V_{max} = 30 VDC or VAC , V_R = 24 VDC or VAC							
A606	90	180	0.5	110	27	17	B59606A0110A062
A607	70	130	0.4	120	55	30	B59607A0120A062
V_{max} = 80 VDC or VAC , V_R = 63 VDC or VAC							
A707	50	90	0.3	120	125	75	B59707A0120A062

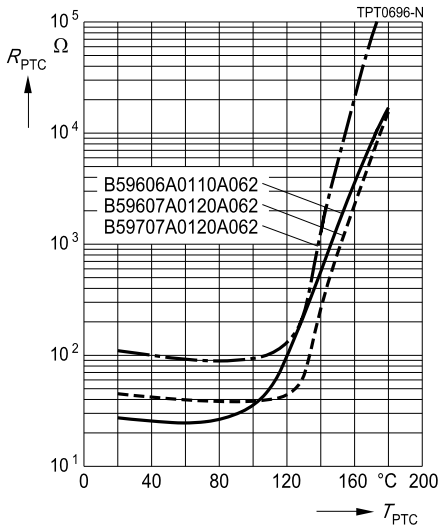
1) Measured on component soldered to standardized PCB

Reliability data

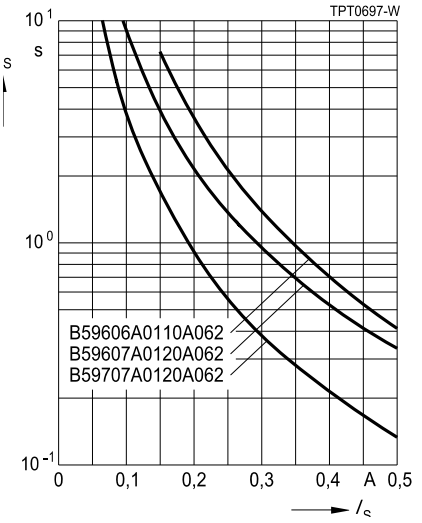
Test	Standard	Test conditions	$\lvert\Delta R_{25}/R_{25}\rvert$
Switching test at room temperature	IEC 60738-1	$I_{Smax;}$ V_{max} Number of cycles: 100	< 25%
Dry heat at upper category temperature	IEC 60738-1	Storage at upper category temperature for t : 1000 h	< 25%
Life test at V_{max} /T_{op}	IEC 60738-1	Storage at V_{max} /T_{op} for t : 1000 h	< 25%
Storage in damp heat	IEC 60068-2-3	Temperature of air: 40 °C Relative humidity of air: 93% Duration: 56 days	< 10%
Rapid change of temperature in air	IEC 60068-2-14, Test Na	T = T_{LCT}, T = T_{UCT} Number of cycles: 5 t = 30 min	< 10%
Vibration	IEC 60068-2-6, Test Fc	f = 10 - 55 Hz h = 0.75 mm (respectively 10 g) t = 3 · 2 h	< 5%
Bump	IEC 60068-2-27	Pulse shape: half-sine a = 50 g Pulse duration: 1 ms; 6 · 3 pulses	< 5%
Climatic sequence	IEC 60068-2-30	Dry heat: T = T_{UCT} t : 16 h Damp heat first cycle Cold: T = T_{LCT} t : 2 h Damp heat 5 cycles	< 10%
Bending test	EN 130000/4.35	Components reflow-soldered to test board Maximum bending: 2 mm	< 10%

Characteristics (typical)

PTC resistance R_{PTC} versus PTC temperature T_{PTC} (measured at low signal voltage)



Switching time t_S versus switching current I_S (measured at 25 °C in still air)



Rated current I_R versus ambient temperature T_A (measured in still air)