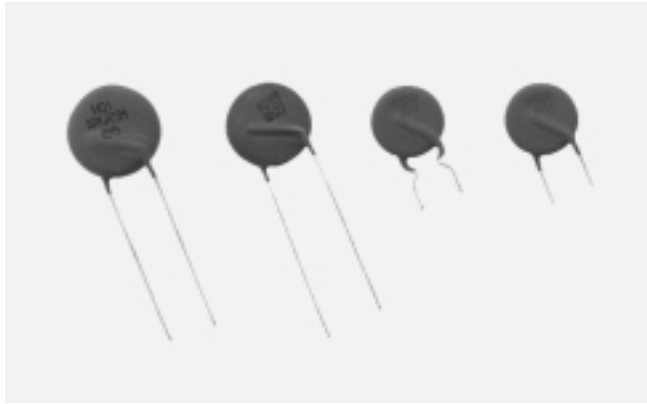


THERMISTOR PRODUCTS

PTC THERMISTOR FOR CIRCUIT PROTECTION

PTH8L Series

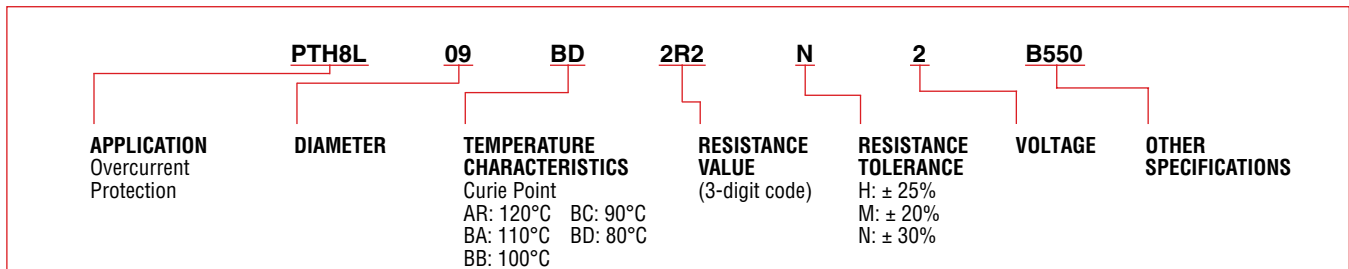


Posistor® protects circuit components at the load and power supply sides by reducing the current when abnormal current flows through the circuit.

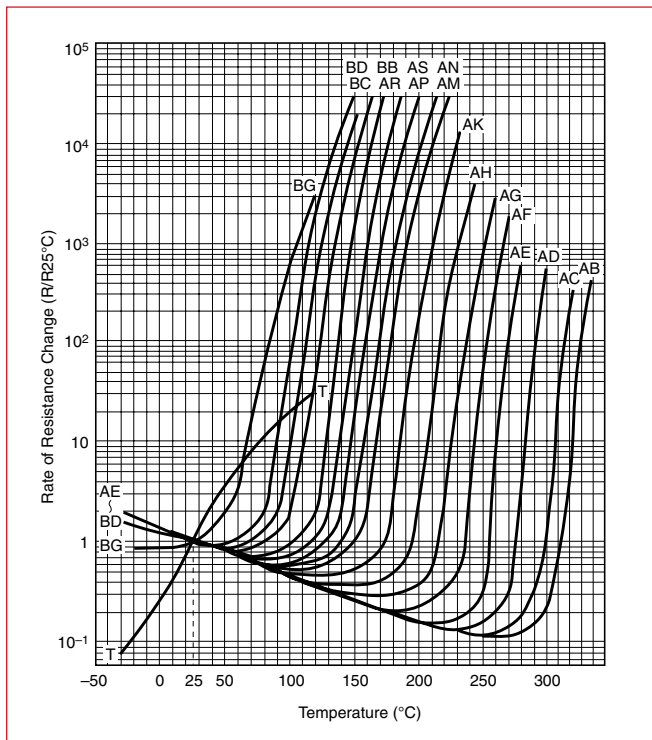
FEATURES

- Posistor® continues to protect a circuit until the abnormal current situation is corrected.
- Posistor® returns to the initial condition when the overcurrent is removed.
- No noise is emitted due to no contact.
- Excellent durability
- Posistor® is resistant to mechanical vibrations and shocks due to solid element construction.
- Non-contact design protects circuits quickly

PART NUMBERING SYSTEM

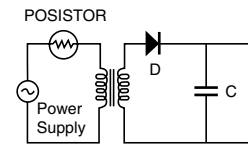


RESISTANCE-TEMPERATURE CHARACTERISTICS

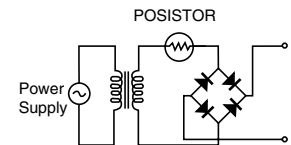


APPLICATION CIRCUIT

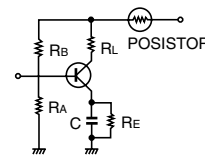
Transformer protection circuit (I)



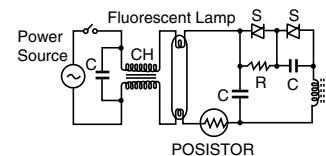
Transformer protection circuit (II)



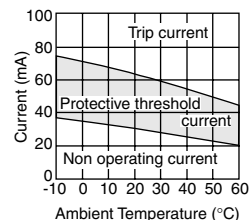
Transistor protection circuit



Fluorescent lamp protection circuit



PROTECTIVE THRESHOLD CURRENT RANGE

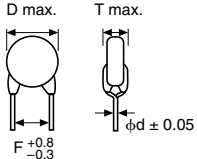
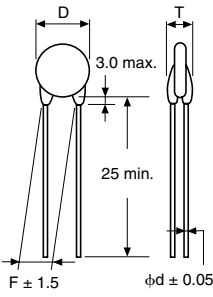


THERMISTOR PRODUCTS

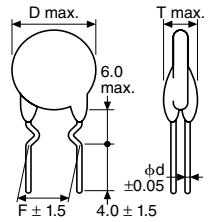
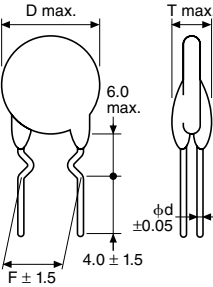
PTC THERMISTOR

FOR CIRCUIT PROTECTION

TRANSFORMER PROTECTION-UL RECOGNIZED

Dimensions: mm	Part Number	Voltage max.	Non-trip Current (mA) at +60°C	Trip Current (mA) at -10°C	Current (A) max.	Resistance (Ohms) at +25°C	Dimensions: mm				Packaging Quantity
							D	T	F	φd	
File No. E137188 250V Series 	PTH8L07BB220N0B506	250V	90	300	0.5	22 ± 30%	8.0	6.0	5.0	0.6	—
	PTH8L09AR390N0B506		100	280	0.6	39 ± 30%	10.0	6.0	5.0	0.6	
	PTH8L10BB120N0G506		90	300	0.6	12 ± 30%	11.0	6.0	5.0	0.6	
File No. E137188 140V, 265V Series 	PTH63H01AR4R7M140	140V	390	900	2.0	4.7 ± 20%	19.0	6.0	10.0	0.65	50
	PTH631H01AR5R6M140		340	780	2.0	5.6 ± 20%	17.0	6.0	10.0	0.65	100
	PTH622H01AR6R8M140		290	670	1.0	6.8 ± 20%	14.0	6.0	10.0	0.65	
	PTH623H01AR100M140		220	510	1.0	10 ± 20%	13.0	6.0	10.0	0.65	150
	PTH624H01AR150M140		170	400	1.0	15 ± 20%	11.6	6.0	6.5	0.65	
	PTH61H01AR220M140		140	330	1.0	22 ± 20%	9.6	6.0	6.5	0.65	
	PTH60H01AR330M140	265V	100	230	0.5	33 ± 20%	7.4	6.0	5.0	0.5	200
	PTH63H02AR120M265		255	610	2.0	12 ± 20%	19.5	6.5	10.0	0.65	50
	PTH62H02AR180M265		180	440	1.8	18 ± 20%	15.7	6.5	10.0	0.65	100
	PTH623H02AR270M265		150	360	1.5	27 ± 20%	14.0	6.5	10.0	0.65	
	PTH61H02AR390M265		100	240	1.2	39 ± 20%	10.0	6.5	6.5	0.65	150
	PTH60H02AR560M265		80	190	0.8	56 ± 20%	8.2	6.5	5.0	0.5	200
	PTH60H02AR820M265		60	150	0.5	82 ± 20%	8.2	6.5	5.0	0.5	
	PTH59H02AR121M265		35	85	0.3	120 ± 20%	6.5	6.5	3.5	0.5	300
	PTH59H02AR181M265		29	70	0.3	180 ± 20%	6.5	6.5	3.5	0.5	

GENERAL CIRCUIT PROTECTION

Dimensions: mm	Part Number	Voltage max.	Non-operating Current (mA) at +60°C	Operating Current (mA) at -10°C	Current (A) max.	Resistance (Ohms) at +25°C	Curie Point (°C)	Dimensions: mm			
								D	T	F	φd
16V Series 	PTH8L05BA1R8M1B510	16V	285	850	2.0	1.8 ± 20%	110 (BA)	6.0	4.0	5.0	0.6
	PTH8L05BA1R8M1B550		285	850	2.0	1.8 ± 20%	110 (BA)	6.0	4.0	5.0	0.6
	PTH8L07BA0R9M1B510		405	1200	3.0	0.9 ± 20%	110 (BA)	7.4	4.0	5.0	0.6
	PTH8L07BA0R9M1B550		405	1200	3.0	0.9 ± 20%	110 (BA)	7.4	4.0	5.0	0.6
	PTH8L09BA0R5M1B510		600	1750	5.0	0.5 ± 20%	110 (BA)	9.5	4.0	5.0	0.6
	PTH8L09BA0R5M1B550		600	1750	5.0	0.5 ± 20%	110 (BA)	9.5	4.0	5.0	0.6
	PTH8L12BA0R3H1B510		800	2450	7.0	0.3 ± 25%	110 (BA)	9.5	4.0	5.0	0.6
	PTH8L12BA0R3H1B550		800	2450	7.0	0.3 ± 25%	110 (BA)	12.0	4.0	5.0	0.6
	PTH8L12ARR23N1C510		1240	3250	7.0	0.23 ± 30%	120 (AR)	12.0	4.0	5.0	0.65
	PTH8L12ARR23N1C550		1240	3250	7.0	0.23 ± 30%	110 (BA)	12.0	4.0	5.0	0.6
24/30/32V Series 	PTH8L07BD100N2B510	24V	80	320	2.0	10 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD100N2B550		80	320	2.0	10 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD6R8N2B510		90	370	2.0	6.8 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD6R8N2B550		90	370	2.0	6.8 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L09BD4R7N2B510		120	500	2.0	4.7 ± 30%	80 (BD)	9.5	4.0	5.0	0.6
	PTH8L09BD4R7N2B550		120	500	2.0	4.7 ± 30%	80 (BD)	9.5	4.0	5.0	0.6
	PTH8L09BD3R3N2B510		140	580	2.0	3.3 ± 30%	80 (BD)	9.5	4.0	5.0	0.6
	PTH8L09BD3R3N2B550		140	580	2.0	3.3 ± 30%	80 (BD)	9.5	4.0	5.0	0.6
	PTH8L09BD2R2N2B510		180	710	2.0	2.2 ± 30%	80 (BD)	9.5	4.0	5.0	0.6
	PTH8L09BD2R2N2B550		180	710	2.0	2.2 ± 30%	80 (BD)	9.5	4.0	5.0	0.6
	PTH8L04AR130H2B510	30V	145	400	0.7	13 ± 25%	120 (AR)	5.5	4.0	5.0	0.6
	PTH8L04AR130H2B550		145	400	0.7	13 ± 25%	120 (AR)	5.5	4.0	5.0	0.6
	PTH8L07AR4R6H2B510		250	700	1.0	4.6 ± 25%	120 (AR)	7.4	4.0	5.0	0.6
	PTH8L07AR4R6H2B550		250	700	1.0	4.6 ± 25%	120 (AR)	7.4	4.0	5.0	0.6
	PTH8L09AR1R8H2B510		410	1120	3.0	1.8 ± 25%	120 (AR)	9.5	4.0	5.0	0.6
	PTH8L09AR1R8H2B550		410	1120	3.0	1.8 ± 25%	120 (AR)	9.5	4.0	5.0	0.6
	PTH8L12AR1R2H2B510		520	1420	4.3	1.2 ± 25%	120 (AR)	12.0	4.0	5.0	0.6
	PTH8L13AR0R8H2B750		680	1900	5.5	0.8 ± 25%	120 (AR)	13.5	4.0	7.5	0.6
	PTH8L07BD470N3B510	32V	30	140	1.5	47 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD470N3B550		30	140	1.5	47 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD330N3B510		40	170	1.5	33 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD330N3B550		40	170	1.5	33 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD220N3B510		45	200	1.5	22 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD220N3B550		45	200	1.5	22 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD150N3B510		60	240	1.5	15 ± 30%	80 (BD)	7.4	4.0	5.0	0.6
	PTH8L07BD150N3B550		60	240	1.5	15 ± 30%	80 (BD)	7.4	4.0	5.0	0.6

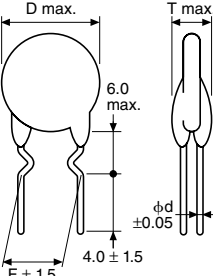
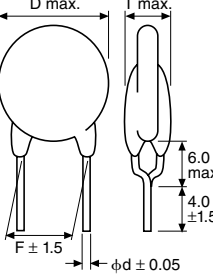
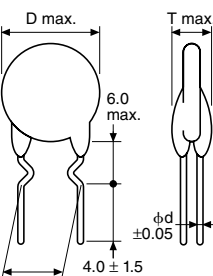
□550/□750: bulk; □510: taping. Maximum Current shows typical capacities of the transformer which can be used.

THERMISTOR PRODUCTS

PTC THERMISTOR

FOR CIRCUIT PROTECTION

GENERAL CIRCUIT PROTECTION (continued)

Dimensions: mm	Part Number	Voltage max.	Non-operating Current (mA) at +60°C	Operating Current (mA) at -10°C	Current (A) max.	Resistance (Ohms) at +25°C	Curie Point (°C)	Dimensions: mm			
								D	T	F	φd
56/80V Series 	PTH8L07AR220M3P510	56V	90	240	1.0	22 ± 20%	120 (AR)	7.4	4.0	5.0	0.6
	PTH8L07AR220M3P550		90	240	1.0	22 ± 20%	120 (AR)	7.4	4.0	5.0	0.6
	PTH8L07AR8R2M3P510		130	350	1.0	8.2 ± 20%	120 (AR)	7.4	4.0	5.0	0.6
	PTH8L07AR8R2M3P550		130	350	1.0	8.2 ± 20%	120 (AR)	7.4	4.0	5.0	0.6
	PTH8L09AR150M3B510		150	400	1.2	15 ± 20%	120 (AR)	9.5	4.0	5.0	0.6
	PTH8L09AR150M3B550		150	400	1.2	15 ± 20%	120 (AR)	9.5	4.0	5.0	0.6
	PTH8L10AR3R9M3P510		210	550	2.0	3.9 ± 20%	120 (AR)	10.5	4.0	5.0	0.6
	PTH8L10AR3R9M3P550		210	550	2.0	3.9 ± 20%	120 (AR)	10.5	4.0	5.0	0.6
	PTH8L09AR4R7M3B510		270	700	2.0	4.7 ± 20%	120 (AR)	9.5	4.0	5.0	0.6
	PTH8L09AR4R7M3B550		270	700	2.0	4.7 ± 20%	120 (AR)	9.5	4.0	5.0	0.6
	PTH8L10AR3R9M3B510		300	800	2.0	3.9 ± 20%	120 (AR)	10.5	4.0	5.0	0.6
	PTH8L10AR3R9M3B550		300	800	2.0	3.9 ± 20%	120 (AR)	10.5	4.0	5.0	0.6
	PTH8L14AR3R3M3B750		380	980	2.5	3.3 ± 20%	120 (AR)	14.5	4.0	7.5	0.6
	PTH8L05AR550H4P510	80V	50	135	0.7	55 ± 25%	120 (AR)	5.5	4.5	5.0	0.6
	PTH8L05AR550H4P550		50	135	0.7	55 ± 25%	120 (AR)	5.5	4.5	5.0	0.6
	PTH8L07AR250H4B510		110	300	1.0	25 ± 25%	120 (AR)	7.4	4.5	5.0	0.6
	PTH8L07AR250H4B550		110	300	1.0	25 ± 25%	120 (AR)	7.4	4.5	5.0	0.6
	PTH8L09AR9R4H4B510		190	530	3.0	9.4 ± 25%	120 (AR)	9.5	4.5	5.0	0.6
	PTH8L09AR9R4H4B550		190	530	3.0	9.4 ± 25%	120 (AR)	9.5	4.5	5.0	0.6
	PTH8L12AR5R6H4B750		270	760	4.3	5.6 ± 25%	120 (AR)	12.0	4.5	7.5	0.6
	PTH8L13AR3R7H4B750		310	860	5.5	3.7 ± 25%	120 (AR)	13.5	4.5	7.5	0.6
125/140V Series 	PTH8L05AR181M7P506	125V	30	75	0.3	180 ± 20%	120 (AR)	6.0	5.0	5.0	0.6
	PTH8L05AR181M7P590		30	75	0.3	180 ± 20%	120 (AR)	6.0	5.0	5.0	0.6
	PTH8L07AR750M7B506		65	165	0.3	75 ± 20%	120 (AR)	8.0	6.0	5.0	0.6
	PTH8L07AR750M7B590		65	165	0.3	75 ± 20%	120 (AR)	8.0	6.0	5.0	0.6
	PTH8L09AR470M6B506		90	230	0.5	47 ± 20%	120 (AR)	10.0	5.5	5.0	0.6
	PTH8L09AR470M6B590		90	230	0.5	47 ± 20%	120 (AR)	10.0	5.5	5.0	0.6
	PTH8L09AR220M6B506		135	340	0.8	22 ± 20%	120 (AR)	10.0	5.5	5.0	0.6
	PTH8L09AR220M6B590		135	340	0.8	22 ± 20%	120 (AR)	10.0	5.5	5.0	0.6
	PTH8L12AR150M6B790		175	440	1.0	15 ± 20%	120 (AR)	12.5	5.5	7.5	0.6
	PTH8L14AR100M6B790		220	550	1.2	10 ± 20%	120 (AR)	15.0	5.5	7.5	0.6
	PTH8L18AR6R8M6B790		300	750	1.4	6.8 ± 20%	120 (AR)	18.5	5.5	7.5	0.6
	PTH8L18AR4R7M6B790		360	900	1.7	4.7 ± 20%	120 (AR)	18.5	5.5	7.5	0.6
	PTH8L18AR3R3M6B790	140V	420	1050	2.0	3.3 ± 20%	120 (AR)	18.5	5.5	7.5	0.6
	PTH8L07AR330M6A553		100	230	0.5	33 ± 20%	120 (AR)	7.4	6.0	5.0	0.50
	PTH8L09AR220M6C653		140	330	1.0	22 ± 20%	120 (AR)	9.6	6.0	6.5	0.65
	PTH8L10AR150M6C653		170	400	1.0	15 ± 20%	120 (AR)	11.6	6.0	6.5	0.65
	PTH8L12AR100M6C053		220	510	1.0	10 ± 20%	120 (AR)	13.0	6.0	10.0	0.65
	PTH8L13AR6R8M6C053		290	670	1.0	6.8 ± 20%	120 (AR)	14.0	6.0	10.0	0.65
	PTH8L16AR5R6M6C053		340	780	2.0	5.6 ± 20%	120 (AR)	17.0	6.0	10.0	0.65
	PTH8L18AR4R7M6C053		390	900	2.0	4.7 ± 20%	120 (AR)	19.0	6.0	10.0	0.65
250/265V Series 	PTH8L07BB220N0B506	250V	90	300	0.5	22 ± 30%	100 (BB)	8.0	6.0	5.0	0.6
	PTH8L10BB120N0G506		90	330	0.6	12 ± 30%	100 (BB)	11.0	6.0	5.0	0.6
	PTH8L09AR390N0B506		100	280	0.6	39 ± 30%	120 (AR)	10.0	6.0	5.0	0.6
	PTH8L05AR181M9F553		29	70	0.3	180 ± 20%	120 (AR)	6.5	6.5	5.0	0.50
	PTH8L05AR121M9F553		35	85	0.3	120 ± 20%	120 (AR)	6.5	6.5	5.0	0.50
	PTH8L07AR820M9A553		60	150	0.5	82 ± 20%	120 (AR)	8.2	6.5	5.0	0.50
	PTH8L07AR560M9A553		80	190	0.8	56 ± 20%	120 (AR)	8.2	6.5	5.0	0.50
	PTH8L09AR390M9C653		100	240	1.2	39 ± 20%	120 (AR)	10.0	6.5	6.5	0.65
	PTH8L12AR270M9C053		150	360	1.5	27 ± 20%	120 (AR)	14.0	6.5	10.0	0.65
	PTH8L14AR180M9C053		180	440	1.8	18 ± 20%	120 (AR)	15.7	6.5	10.0	0.65
	PTH8L18AR120M9C053		255	610	2.0	12 ± 20%	120 (AR)	19.5	6.5	10.0	0.65
	PTH8L05AR151H8P506	265V	28	78	0.2	150 ± 25%	120 (AR)	6.0	6.0	5.0	0.6
	PTH8L05AR151H8P590		28	78	0.2	150 ± 25%	120 (AR)	6.0	6.0	5.0	0.6
	PTH8L07AR700H8B506		66	185	0.4	70 ± 25%	120 (AR)	8.0	6.0	5.0	0.6
	PTH8L07AR700H8B590		66	185	0.4	70 ± 25%	120 (AR)	8.0	6.0	5.0	0.6
	PTH8L07AR650H8B506		68	190	1.0	65 ± 25%	120 (AR)	8.0	6.0	5.0	0.6
	PTH8L07AR650H8B590		68	190	1.0	65 ± 25%	120 (AR)	8.0	6.0	5.0	0.6
	PTH8L07AR450H8B506		80	220	1.0	45 ± 25%	120 (AR)	8.0	6.0	5.0	0.6
	PTH8L07AR450H8B590		80	220	1.0	45 ± 25%	120 (AR)	8.0	6.0	5.0	0.6
	PTH8L09AR250H8B506		118	330	1.0	25 ± 25%	120 (AR)	10.0	6.0	5.0	0.6
	PTH8L09AR250H8B590		118	330	1.0	25 ± 25%	120 (AR)	10.0	6.0	5.0	0.6
	PTH8L12AR150H8B790		165	460	1.5	15 ± 25%	120 (AR)	12.5	6.0	7.5	0.6
	PTH8L13AR100H8B790		200	560	2.2	10 ± 25%	120 (AR)	14.0	6.0	7.5	0.6
	PTH8L18AR6R0H8B790		300	830	4.1	6 ± 25%	120 (AR)	18.5	6.0	7.5	0.6

□550/□750/□590/□790/□553/□653/□053: bulk; □510/□506: taping.
Maximum Current shows typical capacities of the transformer which can be used.

THERMISTOR PRODUCTS

PTC THERMISTOR

FOR TEMPERATURE COMPENSATION

TEMPERATURE COMPENSATION

Dimensions: mm	Part Number	Voltage max. (V)	Current max. (A)	Resistance (k Ohms) at 25°C	Operating Temperature Range (°C)
	PTH8L07T102M2A550	16	0.5	1 ± 20%	-10 ~ +60
	PTH8L07T222M2A550			2.2 ± 20%	
	PTH8L07T472M2A550			4.7 ± 20%	
	PTH8L07T103M2A550			10 ± 20%	

Maximum Current shows the values which may be repeatedly introduced into POSISTOR®.

TERMS

INITIAL RESISTANCE (R@25°C)

The resistance of the posistor is the measured value with a terminal voltage of less than 1VDC to prevent self-heating.

MAXIMUM RATED VOLTAGE

The maximum voltage that can be applied to the posistor continuously in the operating temperature range.

MAXIMUM RATED CURRENT

The maximum in-rush current that may be repeatedly introduced into Posistor® when the circuits operates abnormally.

NON-TRIP CURRENT

At maximum operating temperature, this is the maximum current value that doesn't trip the Posistor® to the high resistance state. Under these conditions, Posistor® performs as a fixed resistor.

TRIP CURRENT

The minimum current value that will cause the Posistor® to trip to the protective high resistance state.

OPERATING TEMPERATURE RANGE

The ambient temperature range in which a Posistor® can be used when the maximum voltage is applied. Range is -10°C to +60°C.

TEMPERATURE CHARACTERISTICS (CURIE POINT)

The temperature at which the resistance of the Posistor® is twice the initial 25°C resistance value.