

# THERMISTOR PRODUCTS

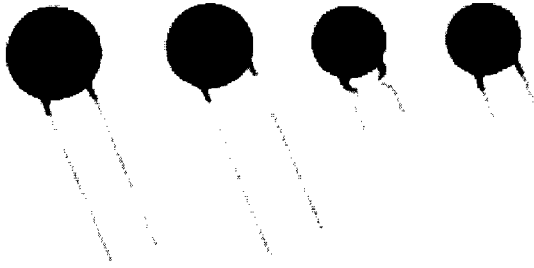
## PTC THERMISTOR

### FOR CIRCUIT PROTECTION



## PTH8L Series

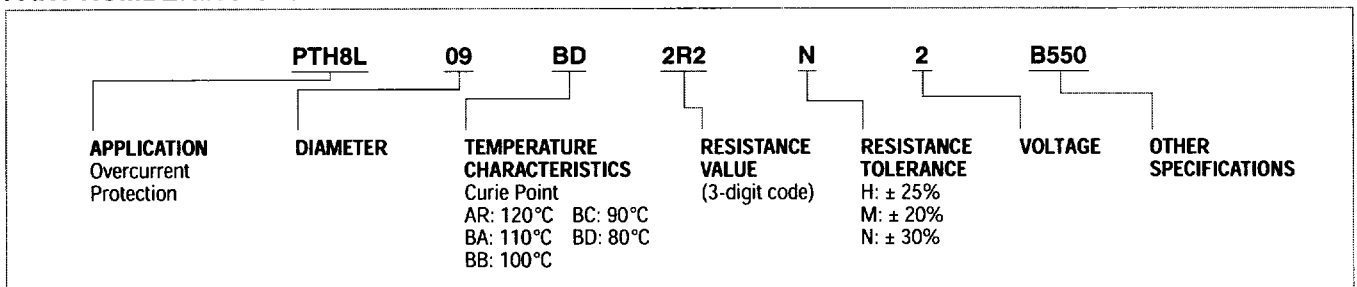
Posistor® protects circuit components at the load and power supply sides by reducing the current when abnormal current flows through the circuit.



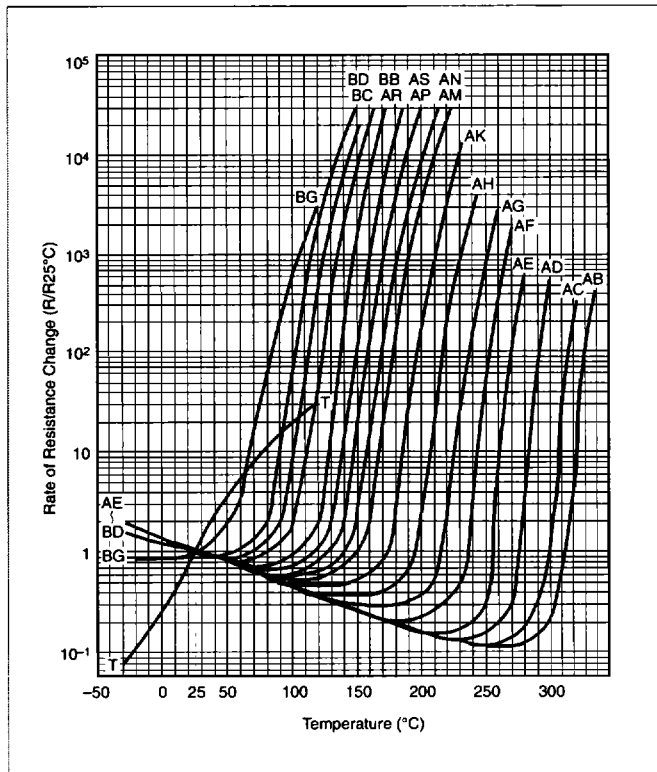
### FEATURES

- 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

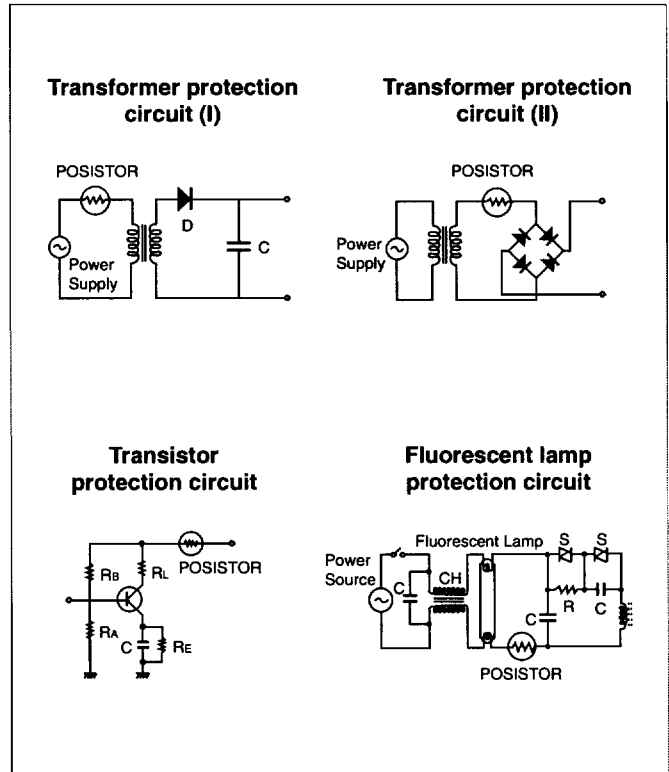
### PART NUMBERING SYSTEM



### RESISTANCE-TEMPERATURE CHARACTERISTICS



### APPLICATION CIRCUIT



PRODUCTS

# THERMISTOR PRODUCTS

## PTC THERMISTOR

### FOR CIRCUIT PROTECTION



PTH8L Series

#### 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	
<b>File No. E137188</b> <b>250V Series</b> 	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	
<b>File No. E137188</b> <b>140V, 265V Series</b> 	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	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
<b>16V Series</b> 	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
<b>24/30/32V Series</b> 	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	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	
	PTH8L12AR1R2H2B550	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	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



PTH8L Series

#### 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
	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		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		
	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		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
<p>*250V Series: F ± 0.8</p>	PTH8L07BB220NB506	250V	90	300	0.5	22 ± 30%	100 (BB)	8.0	6.0	5.0	0.6
	PTH8L10BB120NB506		90	330	0.6	12 ± 30%	100 (BB)	11.0	6.0	5.0	0.6
	PTH8L09AR390NB506		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	
	PTH8L05AR121M9F533	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	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/□653/□053: bulk; □510/□506: taping.  
Maximum Current shows typical capacities of the transformer which can be used.

PRODUCTS

THERMISTOR PRODUCTS  
PTC THERMISTOR  
FOR TEMPERATURE COMPENSATION



PTH8L Series

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.