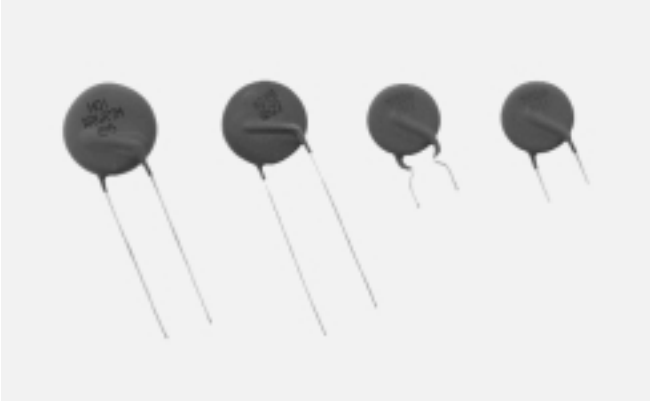
PTC THERMISTOR FOR CIRCUIT PROTECTION

PTGL/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-contract design protects circuits quickly

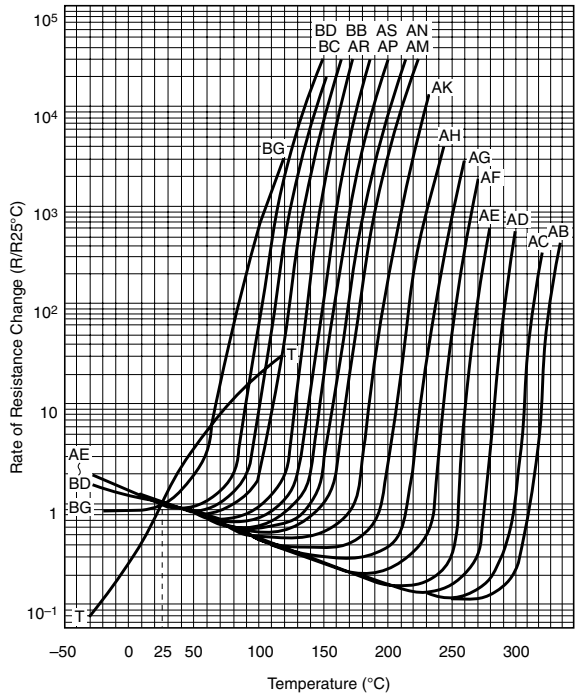
PART NUMBERING SYSTEM

PTH8L	09	BD	2R2	N	2	B550
APPLICATION Overcurrent Protection	**DIAMETER**	**TEMPERATURE CHARACTERISTICS** Curie Point AR: 120°C BA: 110°C BB: 100°C BC: 90°C BD: 80°C	**RESISTANCE VALUE** (3-digit code)	**RESISTANCE TOLERANCE** H: ± 25% M: ± 20% N: ± 30%	**VOLTAGE**	**OTHER SPECIFICATIONS**

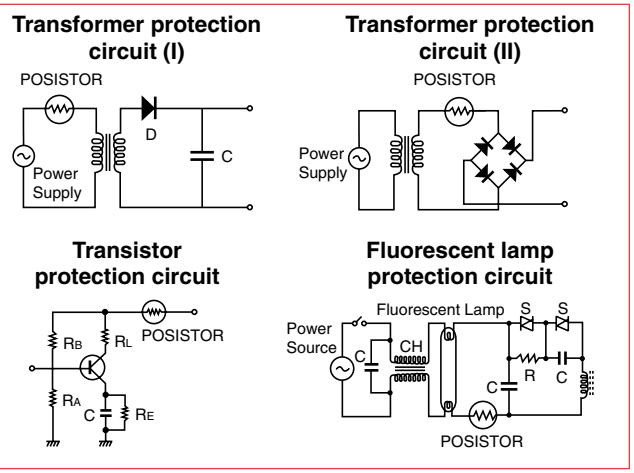
NEW PART NUMBERING SYSTEM

PT	GL	07	AR	220	M	3P51	A0
PRODUCT ID PT: PTC Thermistors	**SERIES CODE** FL: Temperature Sensor Lead Type FM: Temperature Sensor with Lug-terminal GL: Circuit Protection Lead Type	**DIMENSIONS** 04: Nominal Body Diameter 4mm Series 05: Nominal Body Diameter 5mm Series 07: Nominal Body Diameter 7mm Series 09: Nominal Body Diameter 9mm Series 10: Nominal Body Diameter 10mm Series 12: Nominal Body Diameter 12mm Series 13: Nominal Body Diameter 13mm Series 14: Nominal Body Diameter 14mm Series 16: Nominal Body Diameter 16mm Series 18: Nominal Body Diameter 18mm Series S5: Nominal 5mm Rectangular Series S6: Nominal 6mm Rectangular Series S7: Nominal 7mm Rectangular Series	**TEMPERATURE CHARACTERISTICS** Curie Point AR: 120°C BA: 110°C BB: 100°C BC: 90°C BD: 80°C BE: 70°C BF: 60°C BG: 50°C BH: 40°C	**RESISTANCE** Expressed by three figures. The unit is ohm (Ω).The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two figures. If there is a decimal point, it is expressed by the capital letter "R." R22: 0.22Ω 2R2: 2.2Ω 220: 22Ω	**RESISTANCE TOLERANCE** H: ± 25% N: ± 30% M: ± 20% Q: Special Tolerance	**INDIVIDUAL SPECIFICATIONS** 3P51: Lead Type, others	**PACKAGING** A0: Ammo Pack B0: Bulk

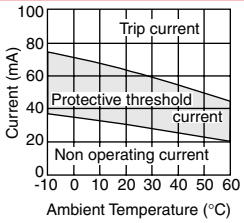
RESISTANCE–TEMPERATURE CHARACTERISTICS



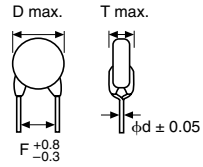
APPLICATION CIRCUIT



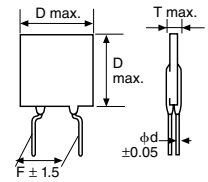
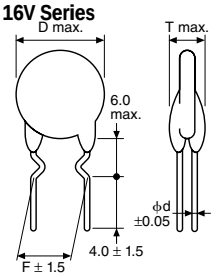
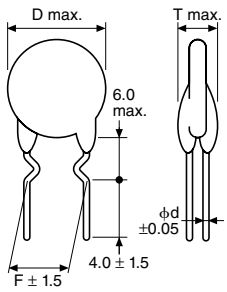
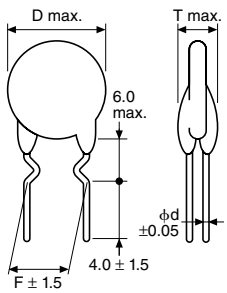
PROTECTIVE THRESHOLD CURRENT RANGE



TRANSFORMER PROTECTION – UL RECOGNIZED

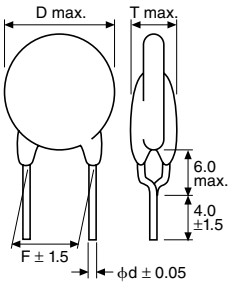
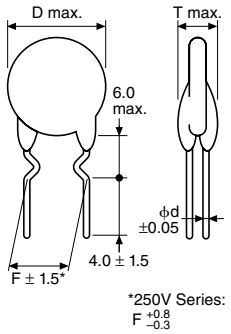
Dimensions: mm	Part Number	Voltage max.	Non-trip Current (mA) at +60°C	Trip Current (mA) at –10°C	Current (A) max.	Resistance (Ohms) at +25°C	Dimensions: mm				Packaging Quantity
							D	T	F	φd	
File No. E137188 **250V Series** 	PTH8L07BB220N0B506	250V	90	300	0.5	22 ± 30%	8.0	6.0	5.0	0.6	—
	PTH8L09AR390N0B506		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	

GENERAL CIRCUIT PROTECTION – NEW PART NUMBERS

Dimensions: mm	NEW 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
6V Series 	PTGLS5BCR22N1N53BO	6V	430	1400	10	0.22±30	90(BC)	6.5	3.0	5.0	0.50
	PTGLS6BCR15N1N53BO		530	1750	10	0.15±30	90(BC)	7.5	3.0	5.0	0.50
	PTGLS7BCOR1Q1N53BO		700	2230	10	0.1+40/-20	90(BC)	8.5	3.0	5.0	0.50
16V Series 	PTGLS4AR1ROM1B53BO	16V	370	1040	2	1±20	120(AR)	5.5	4.0	5.0	0.60
	PTGLS5ARQR8M1B53BO		400	1120	3	0.8±20	120(AR)	6.0	4.0	5.0	0.60
	PTGLS6ARR47MIB51BO		560	1570	5	0.47±20	120(AR)	7.5	4.0	5.0	0.60
	PTGLS7ARR33M1B51BO		680	1900	7	0.33±20	120(AR)	8.0	4.0	5.0	0.60
	PTGLS8ARR27M1B51BO		800	2250	8	0.27±20	120(AR)	9.0	4.0	5.0	0.60
	PTGLS9ARQR2M1B51BO		1000	2800	9	0.2±20	120(AR)	10.0	4.0	5.0	0.60
	PTGLSOARR15M1B51BO		1200	3360	10	0.15±20	120(AR)	11.5	4.0	5.0	0.60
24/30/32V Series 	PTGL07BD10ON2B51BO	24V	80	320	2	10±30	80(BD)	7.4	4.0	5.0	0.60
	PTGL07BD6R8N2B51BO		90	370	2	6.8±30	80(BD)	7.4	4.0	5.0	0.60
	PTGL07BD4R7N2B51BO		120	500	2	4.7±30	80(BD)	7.4	4.0	5.0	0.60
	PTGL07BD3R3N2B51BO		140	580	2	3.3±30	80(BD)	7.4	4.0	5.0	0.60
	PTGL09BD2R2N2B51BO		180	710	2	2.2±30	80(BD)	9.5	4.0	5.0	0.60
	PTGL04AR130H2B51BO	30V	145	400	0.7	13±25	120(AR)	5.5	4.0	5.0	0.60
	PTGL07AR4R6H2B51BO		250	700	1	4.6±25	120(AR)	7.4	4.0	5.0	0.60
	PTGL09AR2R7M2B51BO		300	850	3	2.7±20	120(AR)	9.5	4.0	5.0	0.60
	PTGL09AR1R8H2B51BO		410	1120	3	1.8±25	120(AR)	9.5	4.0	5.0	0.60
	PTGL12AR1R2M2B51BO		520	1420	4.3	1.2±25	120(AR)	12.0	4.0	5.0	0.60
	PTGL13ARQR8H2B71BO		680	1900	5.5	0.8±25	120(AR)	13.5	4.0	7.5	0.60
	PTGL07BD47ON3B51BO	32V	30	140	1.5	47±30	80(BD)	7.4	4.0	5.0	0.60
	PTGL07BD33ON3B51BO		40	170	1.5	33±30	80(BD)	7.4	4.0	5.0	0.60
	PTGL07BD22ON3B51BO		45	200	1.5	22±30	80(BD)	7.4	4.0	5.0	0.60
	PTGL07BD150N3B51BO		60	240	1.5	15±30	80(BD)	7.4	4.0	5.0	0.60
56/80V Series 	PTGL07AR68OM3B51BO	56V	75	190	0.5	68±20	120(AR)	7.4	4.0	5.0	0.60
	PTGL07AR47OM3B51BO		85	225	0.5	47±20	120(AR)	7.4	4.0	5.0	0.60
	PTGL07AR22OM3P51BO		90	240	1	22±20	120(AR)	7.4	4.0	5.0	0.60
	PTGL07AR8R2M3P51BO		130	350	1	8.2±20	120(AR)	7.4	4.0	5.0	0.60
	PTGL09AR150M3B51BO		150	400	1.2	15±20	120(AR)	9.5	4.0	5.0	0.60
	PTGL1OAR3R9M3P51BO		210	550	2	3.9±20	120(AR)	10.5	4.0	5.0	0.60
	PTGL09AR4R7M3B51BO		270	700	2	4.7±20	120(AR)	9.5	4.0	5.0	0.60
	PTGL10AR3R9M3B51BO		300	800	2	3.9±20	120(AR)	10.5	4.0	5.0	0.60
	PTGL14AR3R3M3B71BO		380	980	2.5	3.3±20	120(AR)	14.5	4.0	7.5	0.60
	PTGL05AR55OH4P51BO	80V	50	135	0.7	55±25	120(AR)	5.5	4.5	5.0	0.60
	PTGL07AR25OH4B51BO		110	300	1	25±25	120(AR)	7.4	4.5	5.0	0.60
	PTGL09AR9R4H4B51BO		190	530	3	9.4±25	120(AR)	9.5	4.5	5.0	0.60
	PTGL12AR5R6H4B71BO		270	760	4.3	5.6±25	120(AR)	12.0	4.5	7.5	0.60
	PTGL13AR3R7H4B71BO		310	860	5.5	3.7±25	120(AR)	13.5	4.5	7.5	0.60
	PTGL18AR2R3H4B71BO		450	1250	8	2.3±25	120(AR)	18.0	4.5	7.5	0.60

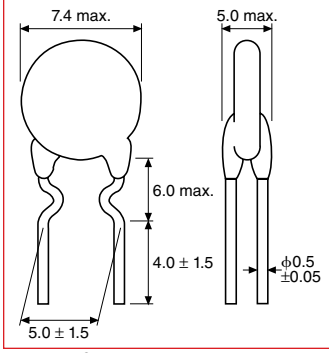
☐550/☐750: bulk; ☐510: taping. Maximum Current shows typical capacities of the transformer which can be used.

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
125/140V Series 	**PTGL05AR181M7P52BO**	125V	30	75	0.3	180±20	120(AR)	6.0	5.0	5.0	0.60
	PTGL07AR75OM7B52BO	125V	65	165	0.3	75±20	120(AR)	8.0	6.0	5.0	0.60
	PTGL09AR47OM6B52BO	125V	90	230	0.5	47±20	120(AR)	10.0	5.5	5.0	0.60
	PTGL09AR22OM6B52BO	125V	135	340	0.8	22±20	120(AR)	10.0	5.5	5.0	0.60
	PTGL12AR15OM6B72BO	125V	175	440	1	15±20	120(AR)	12.5	5.5	5.0	0.60
	PTGL14AR1OOM6B72BO	125V	220	550	1.2	10±20	120(AR)	15.0	5.5	5.0	0.60
	PTGL18AR6R8M6B72BO	125V	300	750	1.4	6.8±20	120(AR)	18.5	5.5	5.0	0.60
	PTGL18AR4R7M6B72BO	125V	360	900	1.7	4.7±20	120(AR)	18.5	5.5	5.0	0.60
	PTGL18AR3R3M6B72BO	125V	420	1050	2	3.3±20	120(AR)	18.5	5.5	5.0	0.60
	PTGL07AR33OM6A51BO	140V	100	230	0.5	33±20	120(AR)	7.4	6.0	5	0.50
	PTGL09AR22OM6C61BO	140V	140	330	1	22±20	120(AR)	9.6	6.0	6.5	0.65
	PTGL1OAR150M6C61BO	140V	170	400	1	15±20	120(AR)	11.6	6.0	6.5	0.65
	PTGL12AR1OOM6C01BO	140V	220	510	1	10±20	120(AR)	13.0	6.0	10	0.65
	PTGL13AR6R8M6C01BO	140V	290	670	1	6.8±20	120(AR)	14.0	6.0	10	0.65
	PTGL16AR5R6M6C01BO	140V	340	780	2	5.6±20	120(AR)	17.0	6.0	10	0.65
	PTGL18AR4R7M6C01BO	140V	390	900	2	4.7±20	120(AR)	19.0	6.0	10	0.65
250/265V Series 	**PTGL10BB120NOP52AO**	250V	90	300	0.6	12±30	1OO(BB)	11.0	6.0	5.0	0.60
	PTGL07BB220NOB52AO	250V	90	300	0.5	22±30	1OO(BB)	8.0	6.0	5.0	0.60
	PTGL09AR390NOB52AO	250V	100	280	0.6	39±30	120(AR)	10.0	6.0	5.0	0.60
	PTGL05AR181M9N51BO	265V	29	70	0.3	180±20	120(AR)	6.5	6.5	5.0	0.50
	PTGL05AR151H8P52BO	265V	28	78	0.2	150±25	120(AR)	6.0	6.0	5.0	0.60
	PTGL05AR121M9N51BO	265V	35	85	0.3	120±20	120(AR)	6.5	6.5	5.0	0.50
	PTGL07AR70OH8B52BO	265V	66	185	0.4	70±25	120(AR)	8.0	6.0	5.0	0.60
	PTGL07AR65OH8B52BO	265V	68	190	1	65±25	120(AR)	8.0	6.0	5.0	0.60
	PTGL07AR82OM9A51BO	265V	60	150	0.5	82±20	120(AR)	8.2	6.5	5.0	0.50
	PTGL07AR45OH8B52BO	265V	80	220	1	45±25	120(AR)	8.0	6.0	5.0	0.60
	PTGL07AR56OM9A51BO	265V	80	190	0.8	56±20	120(AR)	8.2	6.5	5.0	0.50
	PTGL09AR39OM9C61BO	265V	100	240	1.2	39±20	120(AR)	10.0	6.5	6.5	0.65
	PTGL09AR25OH8B52BO	265V	118	330	1	25±25	120(AR)	10.0	6.0	5.0	0.60
	PTGL12AR27OM9C01BO	265V	150	360	1.5	27±20	120(AR)	14.0	6.5	10.0	0.65
	PTGL12AR15OH8B72BO	265V	165	460	1.5	15±25	120(AR)	12.5	6.0	7.5	0.60
	PTGL14AR18OM9C01BO	265V	180	440	1.8	18±20	120(AR)	15.7	6.5	10.0	0.65
	PTGL18AR12OM9C01BO	265V	255	610	2	12±20	120(AR)	19.5	6.5	10.0	0.65
	PTGL13AR10OH8B72BO	265V	200	560	2.2	10±25	120(AR)	14.0	6.0	7.5	0.60
	PTGL18AR6ROH8B72BO	265V	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.

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.