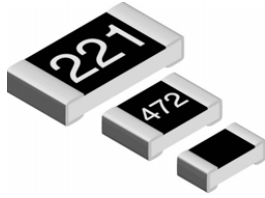


## Linear PTC Thermistors, Surface Mount Chip



### FEATURES

- Solderable wraparound terminations
- Alumina substrate base with PTC thick film element
- 0603, 0805, and 1206 sizes available
- Available in tape and reel packaging
- Standard tolerances:  $\pm 5\%$ ,  $\pm 10\%$
- Contact factory for non-standard tolerance
- Linear from  $-55\text{ }^\circ\text{C}$  to  $+125\text{ }^\circ\text{C}$
- Maximum linear deviation:  $\pm 0.01\text{ }^\circ\text{C}/^\circ\text{C}$

### STANDARD ELECTRICAL SPECIFICATIONS

TCR LOT ppm - 55 °C to + 125 °C	TCR <sup>1)</sup> TOLERANCE ppm	R <sub>25</sub> Ω VALUE RANGE (5 % and 10 % TOLERANCE) <sup>2)</sup>					
		0603		0805		1206	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
3500	$\pm 300$	10	- 22	10	- 39	10	- 47
3300	$\pm 300$	27	- 120	47	- 180	56	- 220
3100	$\pm 300$	150	- 270	220	- 330	270	- 470
2900	$\pm 300$	330	- 560	390	- 680	560	- 1K
2700	$\pm 300$	680	- 1.2K	820	- 1.5K	1.2K	- 3.9K
2500	$\pm 300$	1.5K	- 5.6K	1.8K	- 6.8K	4.7K	- 8.2K
2300	$\pm 300$	6.8K	- 10K	8.2K	- 10K	10K	- 15K

Notes 1. Contact Vishay Dale if closer TCR lot tolerance is desired. 2. Other R<sub>25</sub> values and tolerances are available upon request.

### STANDARD RESISTANCE VALUES

10	120	1.5K
12	150	1.8K
15	180	2.2K
18	220	2.7K
22	270	3.3K
27	330	3.9K
33	390	4.7K
39	470	5.6K
47	560	6.8K
56	680	8.2K
68	820	10K
82	1K	12K
100	1.2K	15K

### STANDARD TECHNICAL SPECIFICATIONS

PART NUMBER	POWER RATING	MAXIMUM WORKING VOLTAGE RCWV <sup>1)</sup>
PTFT 0603	75 mW	30 VDC
PTFT 0805	100 mW	40 VDC
PTFT 1206	125 mW	50 VDC

Note 1. Rated Continuous Working Voltage is maximum working voltage or square root of the power rating times resistance value, whichever is less.

### GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: PTFT1206L1002KZ (preferred part numbering format)

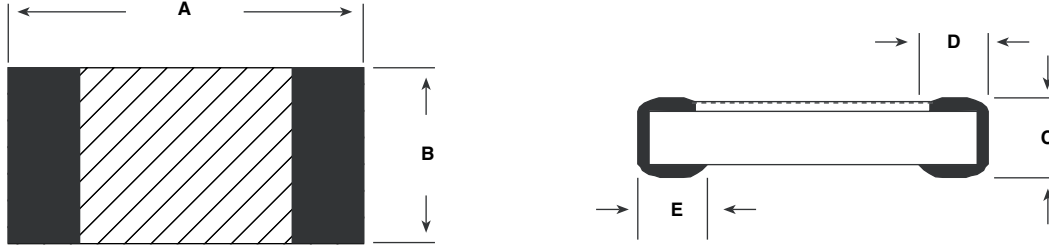
P T F T 1 2 0 6 L 1 0 0 2 K Z

GLOBAL MODEL	CHARACTERISTIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING
PTFT0603 PTFT0805 PTFT1206	L = Linear	1002 = 10K	J = $\pm 5\%$ K = $\pm 10\%$	F = Lead (Pb)-free, Bulk W = Lead (Pb)-free, T/R (Full) P = Tin/Lead, Bulk Z = Tin/Lead, T/R (Full)

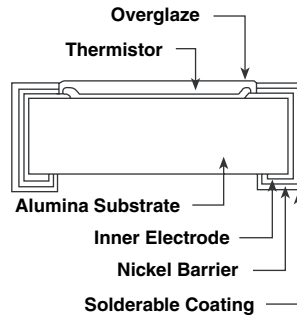
Historical Part Number: PTFT1206L1002KZ (will continue to be accepted)

PTFT1206	L	1002	K	Z
HISTORICAL MODEL	CHARACTERISTIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

**DIMENSIONS** in inches [millimeters]



PART NUMBER	A	B	C	D	E
PTFT0603	0.063 ±0.006 [1.60 ±0.15]	0.031 + 0.006 - 0.002 [0.80 + 0.15 - 0.05]	0.020 ±0.004 [0.50 ±0.10]	0.012 ±0.008 [0.30 ±0.20]	0.012 ±0.008 [0.30 ±0.20]
PTFT0805	0.079 ±0.006 [2.00 ±0.15]	0.049 ±0.006 [1.25 ±0.15]	0.020 ±0.006 [0.50 ±0.15]	0.016 ±0.010 [0.40 ±0.25]	0.016 ±0.010 [0.40 ±0.25]
PTFT1206	0.124 ±0.006 [3.15 ±0.15]	0.063 ±0.006 [1.60 ±0.15]	0.022 ±0.006 [0.56 ±0.15]	0.020 ±0.010 [0.50 ±0.25]	0.020 ±0.010 [0.50 ±0.25]



**CONSTRUCTION**

<b>PERFORMANCE<sup>1)</sup></b>		
TEST <sup>3)</sup>	MAXIMUM % ΔR <sup>2)</sup>	
	1K and Below	Above 1K
High Temperature Exposure (100 hours at 125 °C)	1 %	1 %
Effects of Bonding (10 sec. Solder dip at 260 °C)	1 %	1 %
Thermal Shock (30 min. at - 65 °C, 30 min. at 125 °C, 5 cycles)	1 %	5 %
Low Temperature Operation (Maximum Rated Power for 2 hours at - 65 °C)	1 %	10 %
Short Time Overload (2.5 x RCWV for 5 seconds)	1 %	20 %
Moisture Resistance (240 hours, 10 cycles)	4 %	5 %
Load Life (1000 hours 70 °C, Maximum Rated Power 1.5 hours "ON", 5 hours "OFF")	2 %	10 %
Load Humidity (1000 hours at 85 °C, 85 % RH, and 10 % RCWV)	5 %	15 %
Solderability (95 % coverage P/F)	P	P
Leaching (Physical Damage P/F)	P	P

**Notes**

1. Environmental performance specifications use test procedures as outlined in MIL-R-23648D and MIL-STD-202.
2. PTFT's are ESD Sensitive.
3. Test reading accuracy of ± 0.3 %.



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