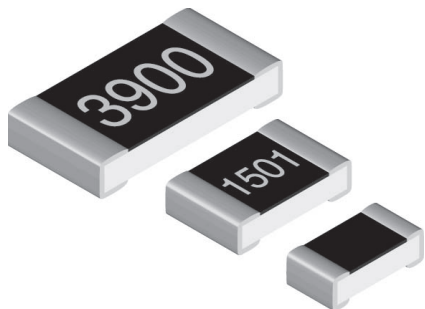


# Linear PTC Thermistors, Surface Mount Chip



## FEATURES

- Solderable wraparound terminations.
- Alumina substrate base with PTC thin film element.
- 0603, 0805, and 1206 sizes available.
- Available in tape and reel packaging.
- Standard tolerances:  $\pm 0.05\%$ ,  $\pm 1\%$ ,  $\pm 5\%$ .
- Contact factory for non-standard tolerance.
- Operation range - 55°C to + 125°C.

STANDARD ELECTRICAL SPECIFICATIONS					
TCR LOT PPM -55°C to + 125°C	TCR* TOLERANCE ppm°C	R <sub>25</sub> Ω VALUE RANGE (1%, 5% and 10% TOLERANCE)**			
		0603		0805	1206
		MIN.	MAX.	MIN. MAX.	MIN. MAX.
4000 - 5000	$\pm 100$	100	– 1K	100 – 5K	100 – 10K

\*Contact Vishay Dale if closer TCR lot tolerance is desired.

\*\*Other R<sub>25</sub> values and tolerances are available upon request.

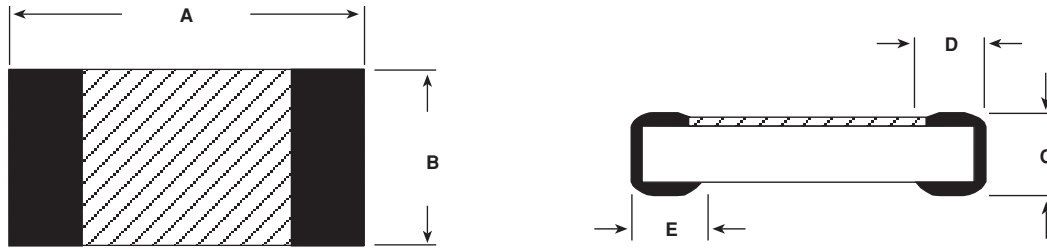
STANDARD RESISTANCE VALUES				
100	270	680	1.8K	4.7K
120	330	820	2.2K	5.6K
150	390	1K	2.7K	6.8K
180	470	1.2K	3.3K	8.2K
220	560	1.5K	3.9K	10.0K

STANDARD TECHNICAL SPECIFICATIONS		
PART NUMBER	POWER RATING	MAXIMUM WORKING VOLTAGE RCWV <sup>1</sup>
TFPT 0603	75mW	30V DC
TFPT 0805	100mW	40V DC
TFPT 1206	125mW	50V DC

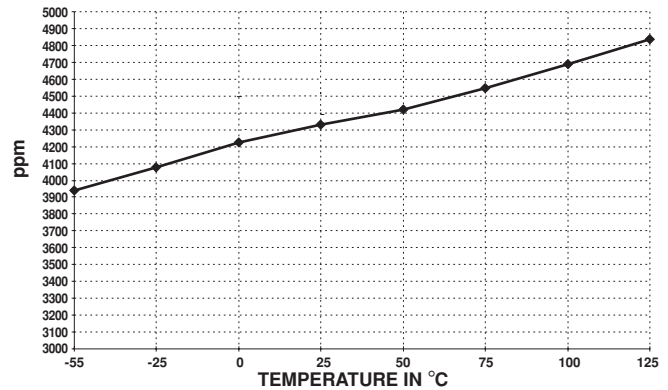
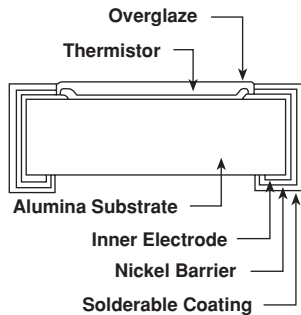
<sup>1</sup>Rated Continuous Working Voltage is maximum working voltage or square root of the power rating times resistance value, whichever is less.

ORDERING INFORMATION				
TFPT MODEL	1206 (E.I.A.) DIMENSION	L LINEAR	1002 R <sub>25</sub>	K TOLERANCE
EXAMPLE: TFPT 1206 L 1002 K			First 3 digits are significant figures, 4th digit is the multiplier	C = $\pm 0.05\%$ F = $\pm 1\%$ J = $\pm 5\%$

**DIMENSIONS** in inches [millimeters]



PART NUMBER	A	B	C	D	E
TFPT0603	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]
TFPT0805	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]
TFPT1206	0.126 ± 0.006 [3.20 ± 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**

**TYPICAL CURVE**

<b>PERFORMANCE*</b>		
<b>TEST**</b>	<b>MAXIMUM %ΔR***</b>	
	<b>1K and Below</b>	<b>Above 1K</b>
High Temperature Exposure (100 hours @ 125°C)	.5%	.5%
Effects of Bonding (10 seconds solder dip @ 260°C)	1%	1%
Thermal Shock (30 minutes @ 65°C, 30 minutes @ 125°C, 5 cycles)	2%	2%
Low Temperature Operation (Maximum rated power for 2 hours @ - 65°C)	1%	10%
Short Time Overload (2.5 x RCWV for 5 seconds)	1%	1%
Load Life (1000 hours 70°C, maximum rated power 1.5 hours "ON", 0.5 hours "OFF")	2%	2%
Solderability (95% coverage P/F)	P	P
Leaching (Physical damage P/F)	P	P

\*Environmental performance specifications use test procedures as outlined in MIL-R-23648D and MIL-STD-202.

\*\*Test reading accuracy of ± 0.3%.

\*\*\*TFPTs are ESD sensitive.