

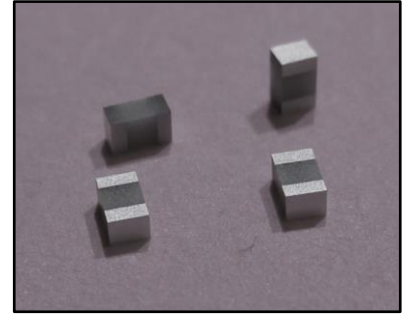
Thermal Conductors – PTC Series

λ Product Features

With the increase in heat dissipation from microelectronics devices and the reduction in overall form factors, thermal management becomes a more and more important element of electronic product design.

PPI's Thermal conductors are a passive heat exchanger that transfers the heat generated by an electronic device to a thermal ground plane or any specific thermal point where it gets dissipated away from the device.

Our thermal conductors are available in a variety of sizes including standard EIA case sizes and are constructed using Aluminum Nitride (AlN) or Beryllium Oxide (BeO).



λ Product Features

- High Thermal Conductivity
- Low Thermal Resistance
- Low Capacitance
- One piece construction
- RoHS Compliant
- EIA case sizes
- More efficient thermal management

λ Applications

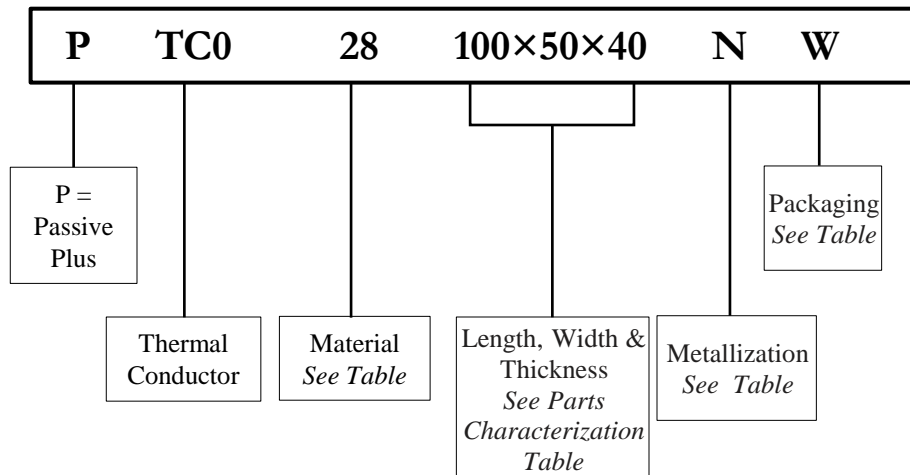
- GaN Power Amplifiers
- High RF Power Amplifiers
- Filters
- Synthesizers
- Switch Mode Power Supplies
- Pin & Laser Diodes

λ Functional Applications

- Between active device & adjacent ground planes
- Specific contact pad to case
- Contact pad to contact pad
- Direct component contact to via pad or trace
- Edges fully metallized

λ Part Numbering

Example shown below: Thermal Conductor, AlN, 1005, thickness (40 mils), Platinum/Gold (Pt/Au), Waffle Pack





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λ Parts Characterizations

Case Size	Length (L) mils / (inches)	Width (W) mils / (inches)	Thickness (T) mils / (inches)	Terminal (t)	Thermal Resistance (°C/W)		Thermal Conductivity (mW/°C)	
					AlN	BeO	AlN	BeO
0302	30 ± 2 (.770 ± .051)	20 ± 2 (.510 ± .0510)	20 (.020 ± .002)	10 -0.25	19	12	53	81
0402	40 ± 2 (1.020 ± .051)	20 ± 2 (.510 ± .0510)	20 (.020 ± .002)	10 -0.25	25	16	40	61
0505	50 ± 2 (1.270 ± .051)	50 ± 2 (1.270 ± .051)	25 (.025 ± .002)	15 -0.38	10	7	100	153
0603	60 ± 2 (1.52 ± .051)	30 ± 2 (.760 ± .051)	25 (.025 ± .002)	15 -0.38	20	13	50	76
0805	80 ± 2 (2.030 ± .051)	50 ± 2 1.270 ± .051)	40 (.040 ± .002)	20 -0.51	10	7	100	153
1005	100 ± 2 (2.54 ± .051)	50 ± 2 (1.27 ± .051)	40 (.040 ± .002)	20 -0.51	13	8	77	122
1020	100 ± 2 (2.540 ± .051)	200 ± 2 (5.080 ± .051)	40 (.040 ± .002)	20 -0.51	3	2	320	508
1111	110 ± 2 (2.790 ± .051)	110 ± 2 (2.790 ± .051)	40 (.040 ± .002)	20 -0.51	7	4	153	240
2010	195 ± 10 (4.950 ± .254)	195 ± 10 (2.410 ± .254)	60 (.060 ± .002)	30 -0.77	10	6	100	159
2525	240 ± 10 (6.100 ± .254)	250 ± 10 (6.350 ± .254)	60 (.060 ± .002)	40 -1.02	4	3	240	380
3725	370 ± 10 (9.400 ± .254)	245 ± 10 (6.220 ± .254)	60 (.060 ± .002)	50 -1.27	6	4	160	254
3737	365 ± 10 (9.270 ± .254)	375 ± 10 (9.530 ± .254)	60 (.060 ± .002)	50 -1.27	4	3	240	380

λ Materials

	AlN	BeO
CODE	28	25

λ Metallizations

Termination Code	Termination Materials
N*	Platinum/Gold (Pt/Au)
X	Platinum/Silver (Pt/Ag)

**Recommended*

λ Packaging

Code	Style
W	Waffle Pack (Standard)
G	Gel Pack

All parts are supplied in waffle packs. Other packaging may be available. Contact PPI for additional packaging options.





Thermal Conductors – PTC Series

λ General Properties

Operating Temperature	-55°C to +150°C
Storage Temperature	-65°C to +150°C
Insulation Resistance	10 ¹² Ω min at 25°C



λ Testing

Testing Performed	Specification / Standard
Visual Inspection	MIL-PRF-55342 MIL-STD-883
Mechanical Inspection	MIL-PRF-55342
DC Resistance	MIL-PRF-55342 MIL-STD-202
Resistance Temperature Characteristics (TCR)	MIL-PRF-55342
Short Time Overload	MIL-PRF-55342
High Temperature Exposure	MIL-PRF-55342
Thermal Shock	MIL-PRF-55342 MIL-STD-202
Resistance to Bonding Exposure	MIL-PRF-55342
Wire Bonding Integrity	MIL-PRF-55342
Life Test	MIL-PRF-55342 MIL-STD-202

λ Performance Specifications

Higher power ratings, additional sizes, and custom resistors available. Please contact sales@passiveplus.com.