

APPLICATION NOTES

Table 1 .Thermal Resistivity (R) Typica Values

R in °C - inches
Watt
conversion from thermal conductivity k to R

$$R = \frac{22.8}{K} \text{ for } K \text{ in } \frac{\text{BTU} \cdot \text{ft}}{\text{hr} \cdot \text{ft}^2 \cdot ^\circ\text{F}}$$

$$R = \frac{0.094}{K} \text{ for } K \text{ in } \frac{\text{cal} \cdot \text{cm}}{\text{sec} \cdot \text{cm}^2 \cdot ^\circ\text{C}}$$

Material	R	Material	R	Material	R
Diamond	0.06	Lead	1.14	Quartz	27.6
Silver	0.10	Indium	2.1	Glass (7740)	34.8
Copper	0.11	Boron nitride (isotropic)	1.24	Silicon thermal grease	46
Gold	0.13	Alumina ceramic	2.13	Water	63
Aluminum	0.23	Kovar	2.34	Mica (avg)	80
Beryllia ceramic	0.24	Silicon carbide	2.3	Polyethylene	120
Molybdenum	0.27	Steel (300 series)	2.4	Teflon	190
Brass	0.34	Nichrome	3.00	Nylon	190
Silicon	0.47	Carbon	5.7	Silicone Rubber	190
Platinum	0.54	Ferrite	6.3	P.P.O.	205
Tin	0.60	Pyroceram (9606)	11.7	Polystyrene	380
Nickel	0.61	Epoxy—high conductivity	24	Mylar	1040
Eutectic lead tin solder	0.78			Air	2280

KEY: Inches[Millimeters] .XX ±.03 .XXX ±.010 [.X ±0.8 .XX ±0.25]



KDI-RESISTOR PRODUCTS

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