

Thermal Conductivity



Material	Chemical	$\frac{\text{Watts}}{\text{cm} \cdot ^\circ\text{C}}$
Insulators:		
Diamond	CVD	10 – 16
Beryllium Oxide 99.5%	BeO	2.61
Aluminum Nitride	AlN	1.70
Sapphire		0.46
Alumina Oxide 99.6%	Al ₂ O ₃	0.36
Alumina Oxide 96%	Al ₂ O ₃	0.26
Alumina Oxide 91%	Al ₂ O ₃	0.13
Glass		0.015
Mica		0.043-0.0062
Air		0.00026
Bonding:		
Gold Germanium 88/12		0.8834
Gold Tin 80/20		0.6824
Tin Lead Solder	Sn62	0.4921
Indium 100%		0.2386
Silver Filled Epoxy		0.0156
Epoxy		0.0099

Material	Chemical	$\frac{\text{Watts}}{\text{cm} \cdot ^\circ\text{C}}$
Metals:		
Silver	Ag	4.08
Copper	Cu	3.94
Gold	Au	2.96
Aluminum	Al	2.18
Beryllium	Be	2.00
Tungsten	W	1.74
Rhodium	Rh	1.50
Molybdenum	Mo	1.46
Brass	66%Cu, 34% Zn	1.11
Chromium	Cr	0.937
Nickel	Ni	0.920
Platinum	Pt	0.716
Tin	Sn	0.666
Tantalum	Ta	0.575
Lead	Pb	0.353
Titanium	Ti	0.219
PC Boards:		
RT/Duroid® 5880		0.026
G10/FR4®		0.027
RT/Duroid® 60 (XX)		0.0041-.0048
TMM® (X)		0.0068-.0075