

Selected Thermal, Mechanical/Materials, Electrical, and Chemical Properties of Selected Materials

	Thermal Conductivity (Minimum)	Electrical Resistivity (Maximum)	Thermal Expansion Coefficient (Typical)	Dielectric Loss Tangent (@ __MHz)	Young's Modulus Of Elasticity	Melting Point	Approx Vickers* Hardness (HV)
	[W/m/K]	[Ohm-cm]	[10 ⁻⁶ /K]		[Gpa]	[Deg-C]	[Gpa]
Nat. Diamond	>2000				1,150		>150
CVD Diamond	≥1200	1E16	1	0.0001	1,050		>60
Si	149	8 uΩm	2.6		47	1414	12
Poly-Si					200		12
GaAs	46	1e6	5.5		85	1530	6.9
InP	68					1333	
SiC	350	1E7	5		400	2300	25
AlN	200	1E14	6		344	2200	12
Sapphire	40	1E16	8		460	2030	20
Aluminum	237	28 nΩm	23		70	660	0.167
Copper	401	17 nΩm	16.5		130	1084	0.369
Gold	318	22 nΩm	14.2		78	1064	0.216
Silver	429	16 nΩm	18.9		83	961	0.251
Thermal Si₃N₄	30		3			1900	16
Thermal SiO₂	1.3	1E7	4		73	1900	13
Amorphous Silicon	1.6						