COOLPROVIDE™ / CPLK

Dual Function Noise Suppression Thermal Pad

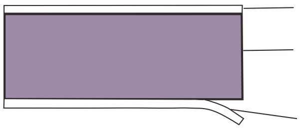
Features

- CPLK's low permittivity 14.6/1MHz has a significant effect on noise reduction.
- Low-dielectric thermally conductive sheet helps to reduce noise in GHz bands, which occurs by heat sink's resonance phenomena.
- Silicone-free generates no siloxane gas and oil bleeding.

(The values below are not guaranteed.)

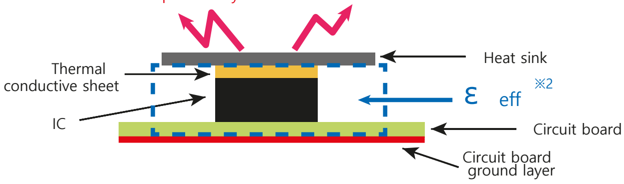
Test type	Unit	Standard	CPLK-F
Thermal Conductivity	W/m·K	JIS R 2616 (Hot-wire method)	2.0
		ISO22007-2 (Hot Disc method)	1.4
Color	—	—	Purple
Thickness	mm	—	1.0/1.5/2.0
Specific Gravity	—	JIS Z 8807	2.0
Hardness	ASKER C	JIS K 7312	30
	Shore OO	ASTM D 2240	60
Tensile strength	MPa	JIS K 6251	0.39
Elongation rate	%	JIS K 6251	9.1
Volume Resistivity	Ω·cm	JIS K 6911 compliant	1.0×10^{11}
Breakdown voltage	kV/mm	JIS C 2110-1 compliant	6.6
Withstanding voltage	kV/mm	JIS C 2110-1 compliant	3.0
Dielectric constant	1MHz	Company standard	5.40
Loss tangent	1MHz	Company standard	0.003
Flammability	—	UL94	V-0 equivalent
Operating temp	℃	—	-40～125
Available max. dimension※1	mm	—	200×500

※1) For usable dimensions, custom cuts, and material yield, contact your local sales department.



Resonance Phenomena

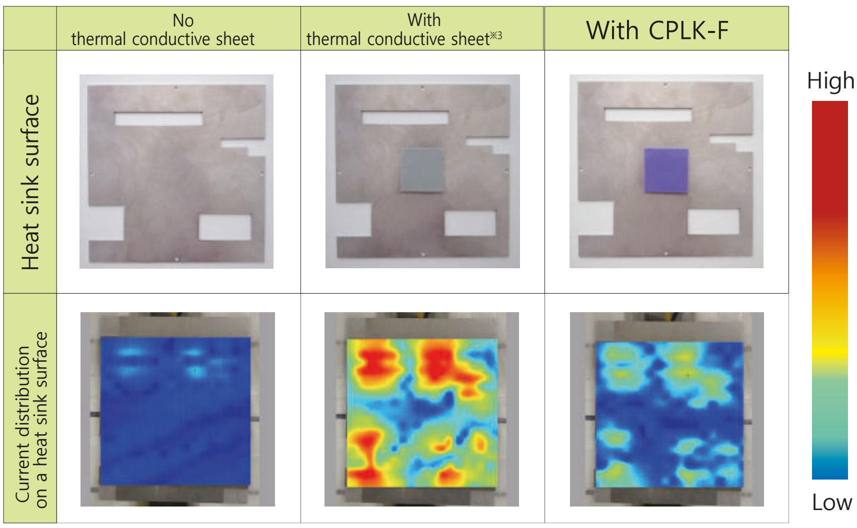
Resonance frequency is influenced by the dimensions of the heat sink, as well as the permittivity within the resonator.



The dielectric constant of the TIM has a significant effect on noise radiation.

Effects of Dielectric (measured)

1.0 GHz~1.2 GHz Magnetic field intensity in vicinity of heat sink



※2 ε eff=Equivalent relative permittivity between a heat sink and a ground layer of a circuit board

※3 Relative permittivity :ε'=35