		Material	Type	Note
1	Base metal plate	Aluminum (1050)	1.0,1.5,2.0mm	
		Aluminum (5052)	3.0mm	
2	Thermally conductive dielectric layer	Epoxy resin filled with inorganic filler	Z type	Dielectric strength (AC2kV)
			Y type	Dielectric strength (AC3kV)
			X type	Dielectric strength (AC5kV)
3	1. Cu circuit	Copper foil (Ni plating / Ni-Au plating available)	35μm	for general circuits
			70μm	for large current circuits
			105μm	for large current circuits
	2. Cu circuit with Al pad	Al/ Cu cladded foil	Al 40μm/Cu10μm	For wire-bonding (bare chip mounting)
			Al 40μm/Cu85μm	for large current circuits
4	Solder resist	Epoxy resin, etc.	5~30μm	

	High heat resistance, Ultra high thermal conductivity type TH-1	General purpose type K-1
Thermal conductivity (W/m K)	4.0	2.0
Volume resistivity (Ω cm) at 23°C	4.1×10^{13}	2.2×10^{13}
Coefficient of thermal expansion ($°C^{-1}$)	6.7×10^{-5}	7.8×10^{-5}
Young's modulus (N/m^2)	5.4×10^{9}	5.1×10^{9}
Poisson's ratio	0.34	0.30
Glass transition point (°C)	165	104

With DENKA's high -value -added electronic components, we accurately identify your needs and contribute to the diversification and sophistication of electronics products

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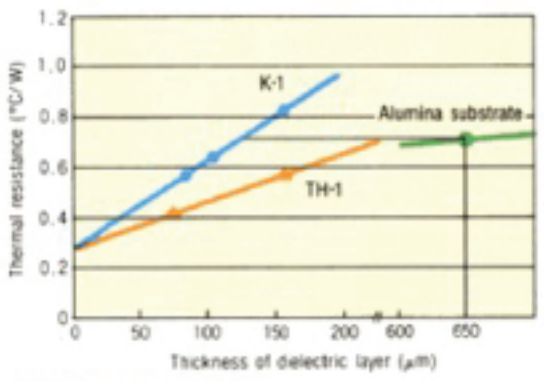
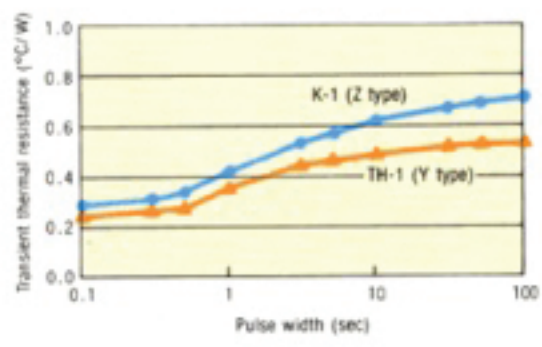
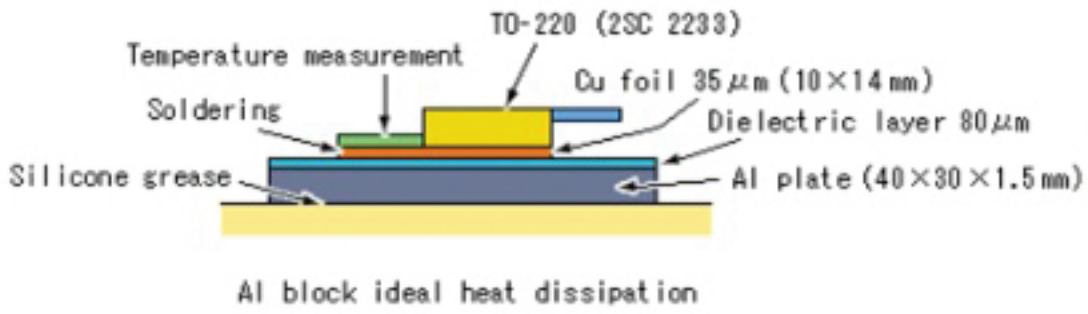


a) Thermal resistance characteristics *Simulated values are used for alumina-substrate values

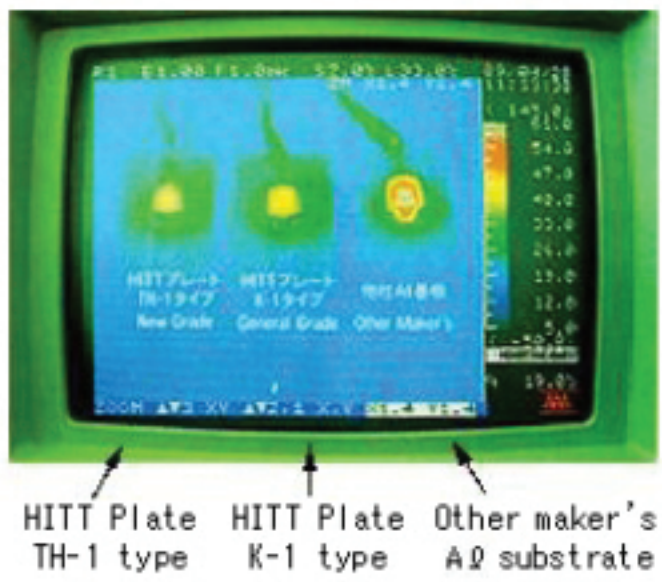


b) Transient thermal resistance characteristics (20 W)

Denka Measuring Method used for the thermal conductivity of substrates



Al block ideal heat dissipation



This photograph shows the thermal images with a 4A current applied for 10 seconds (Tr: TO-220). It can be seen that the temperature rise of the "DENKA HITT PLATE" is kept very small thanks to its excellent thermal conductivity.