

Denka



PHASE CHANGE MATERIALS

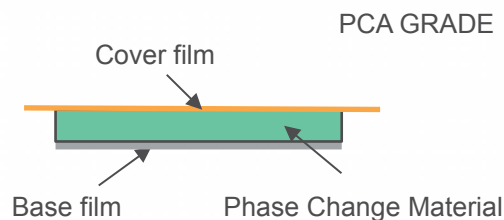


Technical Information

In these days, especially as being represented by the CPUs for notebook personal computers, heat radiation amount from electronic components has been increasing almost proportional to their functional improvement. Denka phase-change type materials are prepared with the ceramic powders manufactured by Denka itself. The ceramic powder is densely filled and finely dispersed in polymers, then, processed into a shape of sheet for easy handling. As a result of utilizing the excellent heat conduction characteristics of ceramic powder, our phase-change type materials are able to show the good heat radiation and can be used for a variety of electronic components.

PCA grades are phase change materials with no silicone, made by thermoplastics and ceramics filler, that exhibit high thermal property similar to GFC compounds. PCA grades are especially designed for high-performance semi-conductor elements such as MPU, SRAM, etc. As it will soften and can be stuck well when using, an excellent thermal conductivity can be achieved.

Figure: Provision of PCA grades



■ PCA

Table: General properties of PCA grades

Item	test method	unit	PCA-A8A	PCA-B6	PCA-E5
Color	visual	-	light blue	grey	
Thickness	-	10 ⁻³ mm	150 , 250 ± 0.05		
Specific gravity	-	g / cm ³	2.40	2.8	2.7
Volume resistivity ^(XX)	JIS 6911	10 ¹³ Ω·cm	1	1	0.06
Phase change temp.	visco-elastmeter	°C	50	50	55
Thermal resistance ^(*)	ASTM D5470	°C / W	0.14	0.10	0.06
Thermal resistance ^(**)	ASTM D5470	°C / W	0.09	0.09	-
Thermal conductivity ^(X)	ASTM D5470	W / (m·K)	2.9	6.5	-

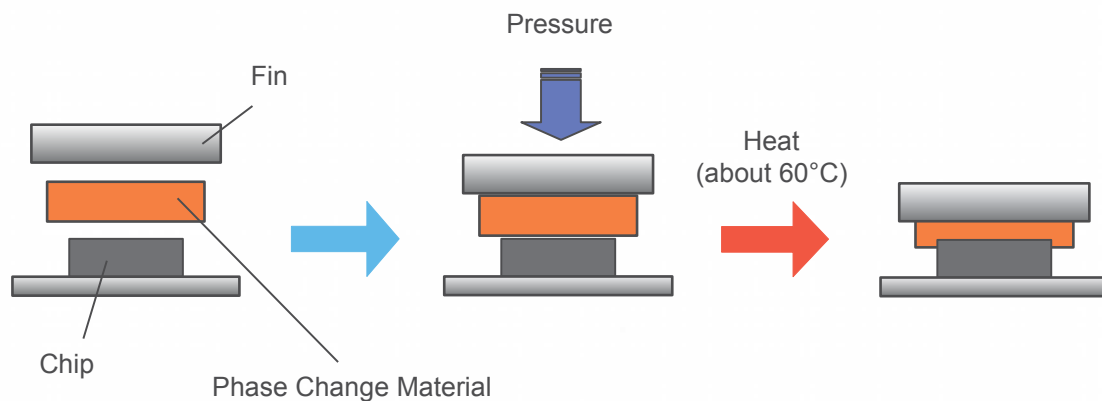
^(*) modified ASTM D5470 @ 60 psi, 1cm²

^(**) modified ASTM D5470 @ 100 psi, 1cm²

^(X) modified ASTM D5470 @ 15 mm, 100 μm

^(XX) @ 25°C

■ Usage of PCA series' Phase Change Materials



MATERIALS STOCKED, CONVERTED AND DISTRIBUTED BY



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