

XL-25W/XL-25D Series

Ceramic Heat Spreader

Features

- Best for limited space
- Low thermal expansion coefficient
- Reliable insulation performance
- Low thermal expansion coefficient
- Non-toxic and durable for high temperature
- Durable for thermal shock

Application:

Adative to dramatic environmental changes

Electronic Components - 5G, Aerospace, AI, AIoT, AR/VR/MR/XR, Automotive, Consumer Devices, Datacom, Electric Vehicle, Electronic Products, Energy Storage, Industrial, Lighting Equipment, Medical, Military, Netcom, Panel, Power Electronics, Robot, Servers, Smart Home, Telecom, etc.

Standard Sizes (mm):

01. TO-220 20x14x0.635
02. TO-220 20x14x1.0
03. TO-220 12x18.5x1.0
04. TO-247 22x17x0.635
05. TO-247 22x17x1.0
06. TO-264 28x22x0.635
07. TO-264 28x22x1.0
08. TO-3P 25x20x0.635
09. TO-3P 25x20x1.0

Properties

Properties	Unit	XL-25W	XL-25D	Test Method
Thermal Conductivity	W/m•K	25	190~210	-
Color	-	White	Dark Gray	-
Dielectric Breakdown Voltage	KV/mm	≥15	≥18.45	ASTM D149
Bulk Density	g/cm^3	≥3.8	3.32	CNS 619
Volume Resistance	Ohm-m	10^{12}	1.4×10^{13}	-
Flexural Strength	kgf/cm^2	4078.8	3416	CNS 12701
Linear Thermal Expansion Coefficient	10^{-6}	6.6~8	2.805	RT~300° C
Main Composition	-	Al_2O_3	AlN	-

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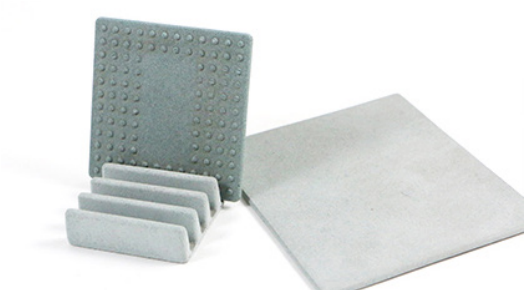


XL-25

Ceramic Heat Spreader

REACH Compliant | RoHS Compliant

Features

- Open-porous structure for more air-contact area
- Best for limited space
- High breakdown voltage & high surface impedance
- Low thermal expansion coefficient
- EMI suppression
- Durable for thermal shock

Application:

Can adapt to dramatic environmental changes

Electronic Components - 5G, Aerospace, AI, AIoT, AR/VR/MR/XR, Automotive, Consumer Devices, Datacom, Electric Vehicle, Electronic Products, Energy Storage, Industrial, Lighting Equipment, Medical, Military, Netcom, Panel, Power Electronics, Robot, Servers, Smart Home, Telecom, etc.

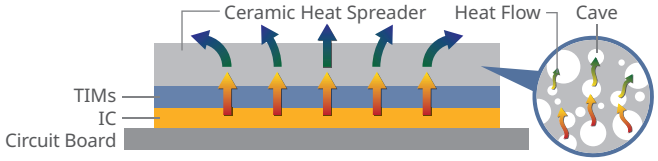
Standard Sizes (mm):

01. 10x10x2.0(flat)	07. 22x22x2.5(flat)	13. 40x40x3.0(embossed)
02. 15x15x2.5(flat)	08. 30x30x2.0(flat)	14. 40x40x5.0(fin)
03. 15x15x5.0(fin)	09. 30x30x2.5(flat)	15. 40x40x10.0(fin)
04. 20x15x2.0(flat)	10. 30x30x5.0(fin)	16. 50x50x3.0(embossed)
05. 20x20x2.0(flat)	11. 35x35x10.0(fin)	17. 50x50x5.0(fin)
06. 20x20x2.5(flat)	12. 40x40x2.5(flat)	18. 50x50x10.0(fin)

Mechanism

Aca ≒ 5 x Aal

The air-contact area of ceramic heat spreader is nearly 5 times of aluminum heat sink, under the same volume. In the same condition of air flow rate, ceramic heat spreaders can perform better. The more contact areas, the more heat can be exchanged by the cooler air.



Qt ∞ S x A
Qt: The heat would be taken by air flow.
S: Air flow(m/s) A: Air contact area (m2)
Aca: Air contact (m^2) of ceramic heat sink
Aal: Air contact (m^2) of aluminium heat sink

Properties

Properties	Unit	XL-25	Tolerance	Test Method
Thermal Conductivity	W/m•K	10	±0.67	-
Color	-	Gray/Green	-	-
Dielectric Breakdown Voltage	KV/mm	≥0.5	-	ASTM D149
Bulk Density	g/cm^3	1.89	±0.18	CNS 619
Flexural Strength	kgf/cm^2	47.5	-	CNS 12701
Porosity	%	25	-	CNS 619
Water Absorption	%	16	-	CNS 619
Operating Temperature	° C	<500	-	-
Linear Temperature Expansion Coefficient	10^{-6}	4.13	-	RT~300° C
Main Composition	-	$SiC/Al_2O_3/SiO_2$	-	-
Hardness	Moh's	5~6	±0.6	DIN En101-1992

※For special sizes, please contact us.

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