

## THERMAL RESISTANCE TABLE

TYPE	PACKAGE CODE	STYLE LEAD COUNT	THETA JC	THETA JA	PIN COMMON TO SUBSTRATE — BOARD TYPE
Metal Can	K	TO-3 2L TO-3 4L	3°C/W 3°C/W	35°C/W 35°C/W	Case Case
Metal Can	H	TO-5 TO-39 TO-46 TO-52	40°C/W 15°C/W 80°C/W N/A	150°C/W 150°C/W 440°C/W 360°C/W	— Pin 3* Pin 3* Pin 3*
CERDIP	J8	J8	30°C/W	110°C/W	—
CERDIP	J	J14 J16 J18 J20 J24 J28	25°C/W 25°C/W 20°C/W 15°C/W 10°C/W 7°C/W	95°C/W 85°C/W 75°C/W 70°C/W 65°C/W 55°C/W	— — — — — —
Side Brazed	D8	D8	30°C/W	100°C/W	—
Side Brazed	D	D14 D16 D18 D20	25°C/W 25°C/W 20°C/W 15°C/W	85°C/W 80°C/W 75°C/W 70°C/W	— — — —
LCC	L	LCC 20L	40°C/W	100°C/W	—
Flat Pack Glass Sealed	W	W10 W14	40°C/W 40°C/W	170°C/W 160°C/W	— —
Flat Pack Bottom Brazed	WB	WB10 WB14	40°C/W 40°C/W	160°C/W 150°C/W	— —
Plastic TO	P	TO-3P 3L (TO-247)	1.5°C/W	45°C/W	Pin 2
Plastic TO	Z	TO-226 3L (TO-92)	—	160°C/W	Pin 1 or 2 (by device)
Plastic TO	T	TO-220 3L TO-220 5L TO-220 7L	3°C/W 3°C/W 3°C/W	50°C/W 50°C/W 50°C/W	Pin 2 Pin 3 Pin 4
Plastic DD	M Q R	DD Pak 3L DD Pak 5L DD Pak 7L	3°C/W 3°C/W 3°C/W	30°C/W 30°C/W 30°C/W	Pin 2 Pin 3 Pin 4
Plastic PDIP 300mil	N8	N8, Cu N8, A42	45°C/W 50°C/W	100°C/W 150°C/W	— —
Plastic PDIP 300mil	N	N14 N16 N18 N20 N24	50°C/W 50°C/W 40°C/W 35°C/W 30°C/W	130°C/W 130°C/W 120°C/W 100°C/W 65°C/W	— — — — —
Plastic PDIP 300mil	N	N14, Cu S16, Cu N18, Cu N20, Cu N24, Cu N28, Cu	33°C/W 34°C/W 29°C/W 28°C/W 27°C/W 30°C/W	70°C/W 70°C/W 65°C/W 62°C/W 60°C/W 59°C/W	4 Layer 4 Layer 4 Layer 4 Layer 4 Layer 4 Layer

  

TYPE	PACKAGE CODE	STYLE LEAD COUNT	THETA JC	THETA JA	PIN COMMON TO SUBSTRATE — BOARD TYPE
Plastic SC70	SC6 SC8	SC70, 6L, Cu 2 Pins Fused SC70, 8L, Cu 3 Pins Fused	— —	270°C/W 270°C/W	Multilayer Multilayer
Plastic SOT TSOT	S3 S5 S6 TS8	SOT-23, 3L, A42 1 Pin Fused TSOT-23, 5L, Cu 1 Pin Fused TSOT-23, 6L, Cu 1 Pin Fused TSOT-23, 8L, Cu 1 Pin Fused	100°C/W 50°C/W 51°C/W 47°C/W	180°C/W 215°C/W 192°C/W 195°C/W	Pin 2 Single Layer Pin 2 4 Layer Pin 2 4 Layer Pin 4 4 Layer
Plastic SOT	ST	SOT-223	15°C/W	60°C/W (est.)	Pin 2
Plastic MSOP 3.2mm	MS8 MS8 MS10 MS8E MSE	MS 8L, Cu MS 8L, A42 MS 10L, Cu MS8 8L, Cu Exposed Die Pad MS 10L, Cu Exposed Die Pad	40°C/W 45°C/W 45°C/W 5-10°C/W 5-10°C/W	200°C/W 300°C/W 120°C/W 35-40°C/W 35-40°C/W	Single Layer Single Layer 4 Layer Multilayer Multilayer
Plastic SO 150mil	S8	S8, Cu S8, A42	39°C/W —	150°C/W 190°C/W	Single Layer Single Layer
Plastic SO 150mil	S8	S8, Cu, 2 Pins Fused S8, Cu, 3 Pins Fused	37°C/W 35°C/W	110°C/W 90°C/W	Single Layer Single Layer
Plastic SO 150mil	S	S14, Cu S14, A42 S16, Cu S16, A42	37°C/W — 30°C/W —	88°C/W 160°C/W 100°C/W 150°C/W	4 Layer Single Layer Single Layer Single Layer
Plastic SO 150mil	S	S14, Cu S16, Cu S16, Cu, 4 Pins Fused	37°C/W 24°C/W 22°C/W	90°C/W 75°C/W 65°C/W	4 Layer 4 Layer 4 Layer
Plastic SO 300mil	SW	SW16 SW18 SW20 SW24 SW28	30°C/W 27°C/W 25°C/W 23°C/W 20°C/W	90°C/W 85°C/W 80°C/W 75°C/W 70°C/W	Single Layer Single Layer Single Layer Single Layer Single Layer
Plastic SSOP 150mil	GN	GN16, 4 Pins Fused	37°C/W	90°C/W	4 Layer
Plastic SSOP 150mil	GN	GN16 GN20 GN24 GN28	40°C/W 30°C/W 30°C/W 25°C/W	110°C/W 90°C/W 85°C/W 80°C/W	4 Layer 4 Layer 4 Layer 4 Layer
Plastic SSOP 5.3mm	G	G20 G24 G28	30°C/W 25°C/W 25°C/W	110°C/W 90°C/W 90°C/W	Single Layer Single Layer Single Layer
Plastic SSOP 300mil	GW	GW36 GW44	20°C/W 17°C/W	80°C/W 70°C/W	Single Layer Single Layer

  

TYPE	PACKAGE CODE	STYLE LEAD COUNT	THETA JC	THETA JA	PIN COMMON TO SUBSTRATE — BOARD TYPE
Plastic TSSOP 4.4mm	F F F FE FE	F14 F20 F20, 4 Pins Fused FE16, FE20, Exposed Die Pad FE28, Exposed Die Pad	17°C/W 20°C/W 18°C/W 10°C/W —	100°C/W 90°C/W 80°C/W 38°C/W 25°C/W	4 Layer 4 Layer 4 Layer 4 Layer, Exposed Pad Soldered to PCB
Plastic TSSOP 6.1mm	FW	FW48 FW56	— 21°C/W (est.)	110°C/W (est.) 95°C/W (est.)	4 Layer 4 Layer
Plastic DFN 2 × 2mm	DC	DC6, Exposed Pad	20°C/W	102°C/W	4 Layer
2 × 3mm	DCB	DCB6, Exposed Pad	10.6°C/W	64°C/W	4 Layer
3 × 2mm	DDB	DDB8, Exposed Pad	13.5°C/W	76°C/W	4 Layer
3 × 3mm	DD	DD8, Exposed Pad DD10, Exposed Pad	3.0°C/W 3.0°C/W	43°C/W 43°C/W	4 Layer 4 Layer
4 × 3mm	DE, UE	DE12, UE12, Exposed Pad	4.3°C/W	43°C/W	4 Layer
5 × 3mm	DHC	DHC16, Exposed Pad	4°C/W	43°C/W	4 Layer
5 × 4mm	DHD	DHD16, Exposed Pad	4.3°C/W	43°C/W	4 Layer
5 × 5mm	DH	DH16, Exposed Pad	1.1°C/W	34°C/W	4 Layer
6 × 3mm	DJC	DJC22, Exposed Pad	5.2°C/W	47°C/W	4 Layer
Plastic QFN 3 × 3mm	UD	UD16, Exposed Pad	4.2°C/W	68°C/W	4 Layer
4 × 4mm	UF	UF16, Exposed Pad UF20, Exposed Pad UF24, Exposed Pad	2.6°C/W 2°C/W 2°C/W 2°C/W	37°C/W 37°C/W 37°C/W 37°C/W	4 Layer 4 Layer 4 Layer 4 Layer
4 × 5mm	UFD	UFD20, Exposed Pad UFD24, Exposed Pad UFD28, Exposed Pad	2.7°C/W 2.7°C/W 2.7°C/W 2.7°C/W	43°C/W 43°C/W 43°C/W 43°C/W	4 Layer 4 Layer 4 Layer 4 Layer
5 × 5mm	UH	UH32, Exposed Pad	1.1°C/W	34°C/W	4 Layer
5 × 7mm	UHF	UHF38, Exposed Pad	0.75°C/W	34°C/W	4 Layer
5 × 9mm	UHH	UHH56, Exposed Pad	0.50°C/W	31°C/W	4 Layer
6 × 6mm	UJ	UJ40, Exposed Pad	0.75°C/W	33°C/W	4 Layer
7 × 7mm	UK	UK48, Exposed Pad	0.5°C/W	29°C/W	4 Layer
7 × 8mm	UKG	UKG52, Exposed Pad	0.5°C/W	29°C/W	4 Layer
9 × 9mm	UP	UP64, Exposed Pad	0.24°C/W	28°C/W	4 Layer

Consult individual data sheets for product-specific values or requirements. These values are offered for general reference use. The values for Plastic Packages are for copper material and non-fused type unless otherwise shown in STYLE LEAD COUNT column. Construction variations, such as leads fused internally to Die Attach Pad, and PCB copper layout, significantly influence thermal performance. Cu = copper; A42 = Alloy 42. \* 3-lead versions.