

Data Sheet

Customer: _____

Product: Thermal Jumper Surface Mount Chip - HTJ Series

Size : 0603~2512

Issued Date: 29-May-2025

Edition: Ver. 1

Record of change

Date	Ver.	Description	Page

HITANO ENTERPRISE CORP.

7F-7, No. 3, Wu Chuan 1st Road, New Taipei Industrial Park,
New Taipei City, TAIWAN, R.O.C.

Tel: +886 2 2299 1331 (Rep.)

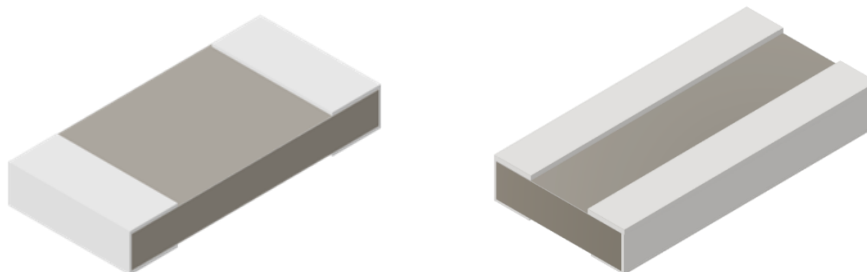
Fax: +886 2 2298 2466, 2298 2969

Prepared by	Checked by	Approved by	Accepted by (customer)
29-May-2025	29-May-2025	29-May-2025	
Randy Yu	Michelle Lin	Arthur Su	

Thermal Jumper Surface Mount Chip

HTJ Series

Thermal Jumper Surface Mount Chip — HTJ Series

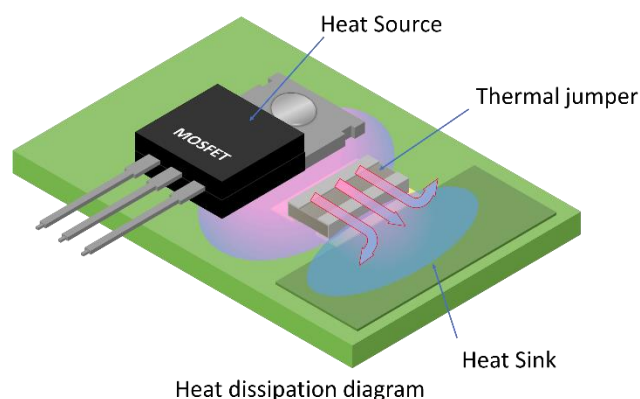


Applications

- Power supplies and converters
- Switch mode power supplies

Features

- AlN substrate (Thermal conductivity 170 W/mK)
- Low capacitance
- High Insulation resistance between terminals
- Halogen free and lead free
- RoHS compliant
- Maintain electrical isolation from heatsinks
- Remove unwanted heat from hot component



Parts Number Explanation

Example:

HTJ	0612	63	R	Z
Product Type	Size (Inch)	Substrate Thickness(mm)	Package	Optional
HTJ Series Thermal jumper surface mount Chip	0603 0508 0612 1206 1225 2512	50 : 0.50 63 : 0.635	R : Paper Taping E : Embossed Taping	Z : Default code

Thermal Jumper Surface Mount Chip

HTJ Series

Standard Electrical Specifications

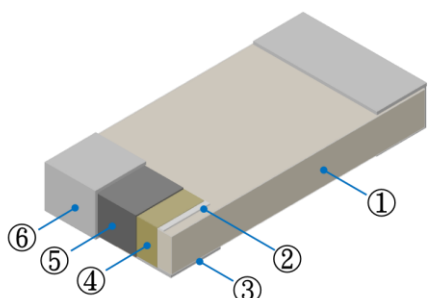
Type Size	Thermal resistance (°C/W), R_t	Thermal conductance (mW/°C), G_t	Capacitance (pF)	Dielectric withstanding voltage kV_{AC} , RMS (60 Hz)	Operating Temperature Range (°C)	Storage Temperature Range (°C)	Substrate material
0603	20	50	0.07	> 1.5	- 55 to +155	- 55 to +155	Aluminum nitride (170 W/mK)
0508	6	160	0.15	> 1.5			
0612	4	250	0.26	> 1.5			
1206	16	63	0.07	> 3.0			
1225	4	250	0.26	> 1.5			
2512	16	63	0.07	> 5.0			

Note

● $R_t = \frac{L}{k(H \cdot W)}$; $G_t = 1/R_t$

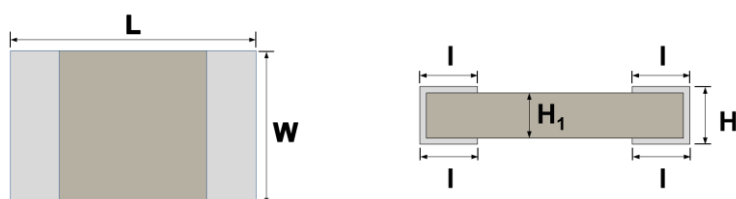
$k = 170 \text{ W/mK}$ (the thermal conductivity of AlN)

Construction



①	Aluminum nitride Substrate	④	Side Inner Electrode
②	Top Inner Electrode	⑤	Nickel Barrier
③	Bottom Inner Electrode	⑥	Solder coating (Sn)

Dimensions



Unit : mm

Type	L	W	H	H ₁	I
HTJ0603	1.60 ± 0.13	0.80 ± 0.13	0.55 ± 0.13	0.50 ± 0.13	0.40 ± 0.13
HTJ0508	1.25 ± 0.13	2.00 ± 0.13	0.55 ± 0.13	0.50 ± 0.13	0.40 ± 0.13
HTJ0612	1.60 ± 0.13	3.20 ± 0.13	0.70 ± 0.13	0.635 ± 0.13	0.40 ± 0.13
HTJ1206	3.20 ± 0.13	1.60 ± 0.13	0.70 ± 0.13	0.635 ± 0.13	0.50 ± 0.13
HTJ1225	3.20 ± 0.13	6.40 ± 0.13	0.70 ± 0.13	0.635 ± 0.13	0.60 ± 0.13
HTJ2512	6.40 ± 0.13	3.20 ± 0.13	0.70 ± 0.13	0.635 ± 0.13	0.60 ± 0.13

Thermal Jumper Surface Mount Chip

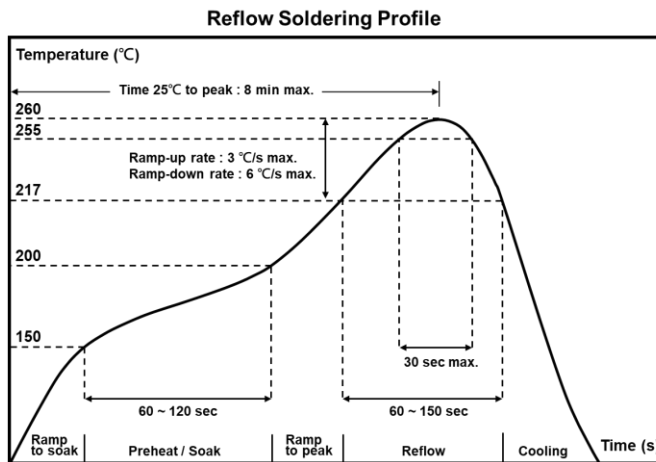
HTJ Series

Reliability Tests and Requirements

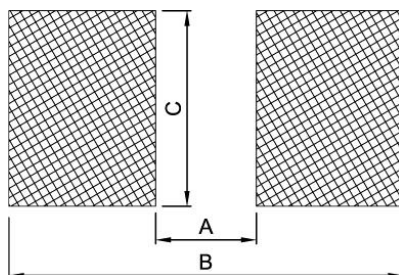
Test Item	Test Method	Procedure	Requirements
Solderability	JIS-C-5201-1 4.17 IEC-60115-1 4.17	245±5°C for 3 seconds.	>95% Coverage No Visual damage
Terminal Strength (SMD)	AEC Q200-006	Pressurizing force for 60 seconds 0603 : 9.8N 0508/0612/1206/1225/2512 : 19.6N	No Visual damage
Bending Strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	Bending once for 5 seconds D : 0603 = 5mm 0508、1206、0612 = 3mm 2512、1225 = 2mm	No Visual damage
Temperature Cycling	JIS-C-5201-1 4.19 IEC-60115-1 4.19	1000 Cycles (-55°C to +125°C) Measurement at 24±4 hours after test conclusion. 30min maximum dwell time at each temperature extreme.	No Visual damage

Recommended Customer Soldering Parameters

Solder reflow Temperature condition



Recommend Land Pattern Design



Unit: mm

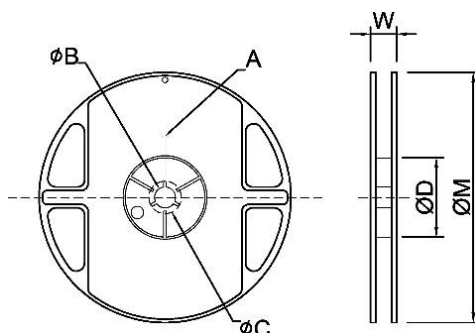
Type	A	B	C
HTJ0603	0.78	2.40	1.00
HTJ0508	0.30	2.00	2.30
HTJ0612	0.60	2.60	3.50
HTJ1206	2.10	4.20	1.80
HTJ1225	2.00	4.50	7.00
HTJ2512	5.00	8.10	3.40

Thermal Jumper Surface Mount Chip

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■ Packaging Information

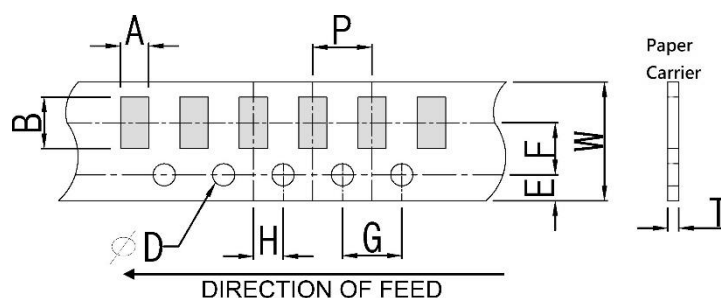
■ Reel Dimensions



Unit: mm

Type	Size		A	ϕB	ϕC	ϕD	W	ϕM
0603/0508/0612/1206	7"	5K/Reel	2.0 ± 0.5	13.5 ± 1.0	21 ± 1.0	60 ± 1.0	11.5 ± 2.0	178 ± 2.0
2512/1225	7"	4K/Reel	2.0 ± 0.5	13.5 ± 1.0	21 ± 1.0	60 ± 1.0	16.0 ± 2.0	178 ± 2.0

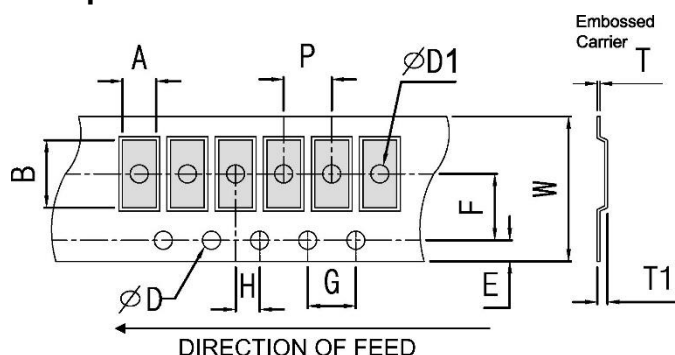
■ Paper Tape Dimensions



Unit: mm

Type	A	B	W	E	F	G	H	T	ϕD	P
0603	1.05 ± 0.20	1.80 ± 0.20	8.0 ± 0.20	1.75 ± 0.10	3.5 ± 0.05	4.0 ± 0.10	2.0 ± 0.05	0.60 ± 0.10	$1.50^{+0.10}_{-0}$	4.0 ± 0.10
0508	1.55 ± 0.20	2.30 ± 0.20	8.0 ± 0.20	1.75 ± 0.10	3.5 ± 0.05	4.0 ± 0.10	2.0 ± 0.05	0.75 ± 0.10		
0612	1.90 ± 0.20	3.05 ± 0.20	8.0 ± 0.20	1.75 ± 0.10	3.5 ± 0.05	4.0 ± 0.10	2.0 ± 0.05	0.75 ± 0.10		
1206	1.90 ± 0.20	3.50 ± 0.20	8.0 ± 0.20	1.75 ± 0.10	3.5 ± 0.05	4.0 ± 0.10	2.0 ± 0.05	0.75 ± 0.10		

■ Plastic Embossed Tape Dimensions



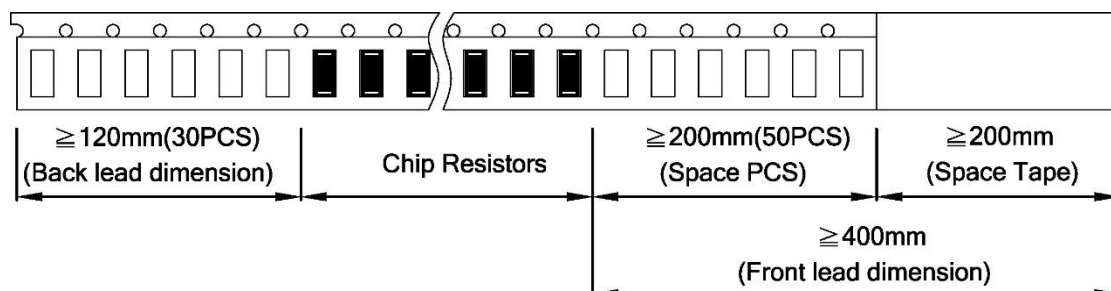
Unit: mm

Type	A	B	W	E	F	G	H	T	ϕD	$\phi D1$	T1	P
1225	3.40 ± 0.2	6.70 ± 0.2	12 ± 0.1	1.75 ± 0.1	5.5 ± 0.05	4.0 ± 0.1	2.0 ± 0.05	0.23 ± 0.1	$1.50^{+0.10}_{-0}$	1.50 ± 0.10	0.85 ± 0.15	4.0 ± 0.10
2512	3.40 ± 0.2	6.70 ± 0.2	12 ± 0.1	1.75 ± 0.1	5.5 ± 0.05	4.0 ± 0.1	2.0 ± 0.05	0.23 ± 0.1	$1.50^{+0.10}_{-0}$	1.50 ± 0.10	0.85 ± 0.15	4.0 ± 0.10

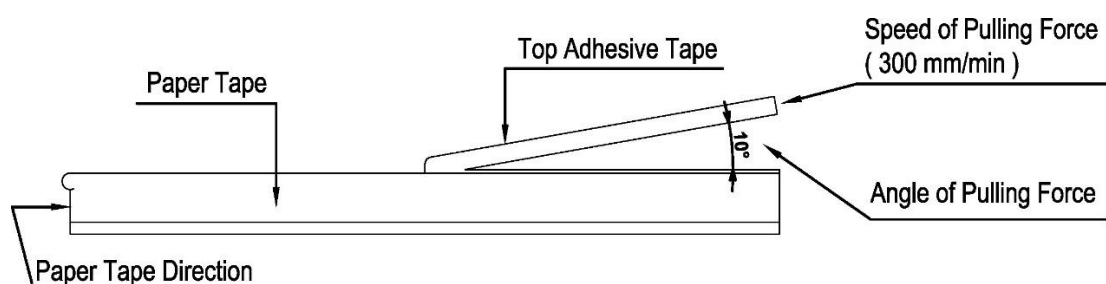
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Front & Back Lead Dimensions

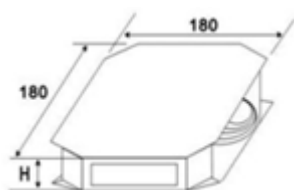


Top Adhesive Peel Off Strength : 10~70g

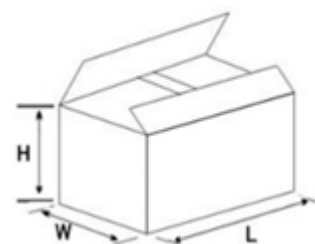


Package

Inner Box Size	
Reel	Size H(mm)
1	13
2	24
3	36
5	60
10	113



External Box Size			
Contain (Kpcs)	Length (mm)	Width (mm)	Height (mm)
25K	180	180	60
50K	180	180	110
150K	430	200	200
300K	400	400	200



Storage Data :

Storage time at the environment temp: $25\pm 5^\circ\text{C}$ & humidity: $60\pm 20\%$ is valid for two years.