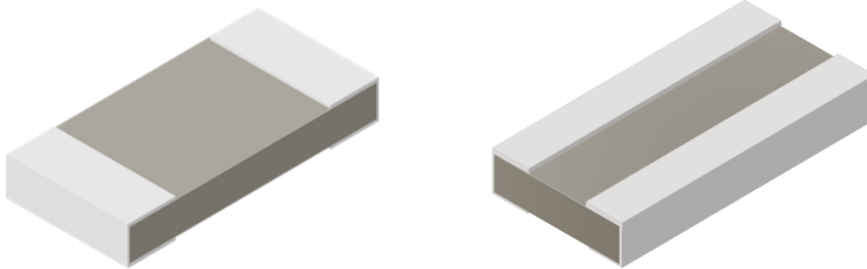
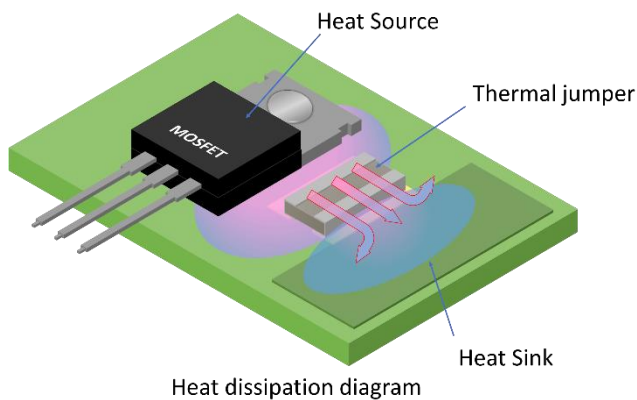


Thermal Jumper Surface Mount Chip — TJ Series



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:

TJ	0612	63	P	05	Z
Product Type	Size (Inch)	Substrate Thickness(mm)	Package	Quantity (PCS)	Optional
TJ Series Thermal jumper surface mount Chip	0603 0508 0612 1206 1225 2512	50 : 0.50 63 : 0.635	P : Paper Taping E : Embossed Taping	04 : 4000 05 : 5000	Z : Default code

Standard Electrical Specifications

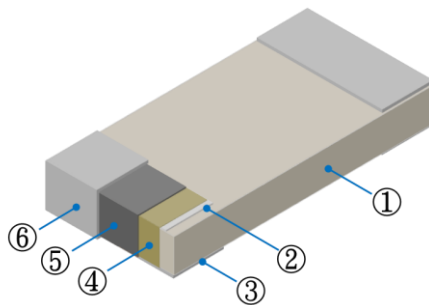
Type Size	Thermal resistance (°C/W), R_t	Thermal conductance (mW/°C), G_t	Capacitance (pF)	Dielectric withstanding voltage kV_{AC} , RMS (60 Hz)	Operating Temperature Range (°C)	Storage Temperature Range (°C)	Substrate material
0603	20	50	0.07	> 1.5	- 55 to +155	- 55 to +155	Aluminum nitride (170 W/mK)
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

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

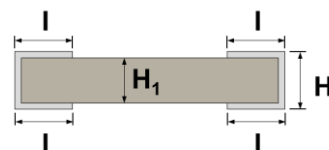
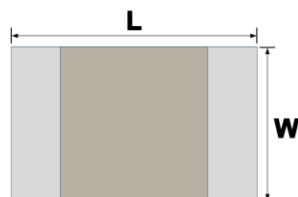
$k = 170 \text{ W/mK}$ (the thermal conductivity of AlN)

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
TJ0603	1.60 ± 0.13	0.80 ± 0.13	0.55 ± 0.13	0.50 ± 0.13	0.40 ± 0.13
TJ0508	1.25 ± 0.13	2.00 ± 0.13	0.55 ± 0.13	0.50 ± 0.13	0.40 ± 0.13
TJ0612	1.60 ± 0.13	3.20 ± 0.13	0.70 ± 0.13	0.635 ± 0.13	0.40 ± 0.13
TJ1206	3.20 ± 0.13	1.60 ± 0.13	0.70 ± 0.13	0.635 ± 0.13	0.50 ± 0.13
TJ1225	3.20 ± 0.13	6.40 ± 0.13	0.70 ± 0.13	0.635 ± 0.13	0.60 ± 0.13
TJ2512	6.40 ± 0.13	3.20 ± 0.13	0.70 ± 0.13	0.635 ± 0.13	0.60 ± 0.13



TJ Series Thermal Jumper Surface Mount Chip Product Specifications

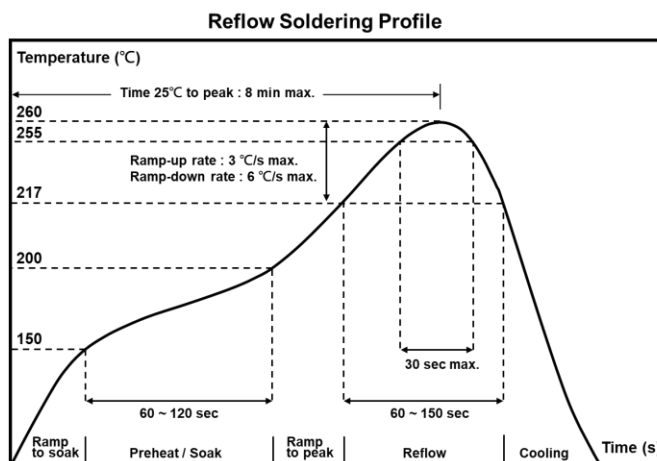
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Reliability Tests and Requirements

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 +155°C) Measurement at 24±4 hours after test conclusion. 30min maximum dwell time at each temperature extreme.	No Visual damage
Hot Plate Test	EO self-test	Place the chip directly on a hot plate at 260 °C for 30 seconds, There should be no bouncing or obvious movement on the hot plate.	No Visual damage / No bouncing

Recommended Customer Soldering Parameters

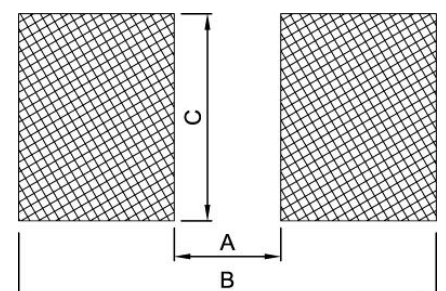
Solder reflow Temperature condition



Recommend Land Pattern Design

Unit: mm

Type	A	B	C
TJ0603	0.78	2.40	1.00
TJ0508	0.30	2.00	2.30
TJ0612	0.60	2.60	3.50
TJ1206	2.10	4.20	1.80
TJ1225	2.00	4.50	7.00
TJ2512	5.00	8.10	3.40



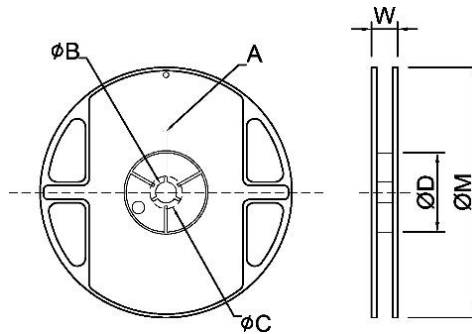


TJ Series Thermal Jumper Surface Mount Chip Product Specifications

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■ Packaging Information

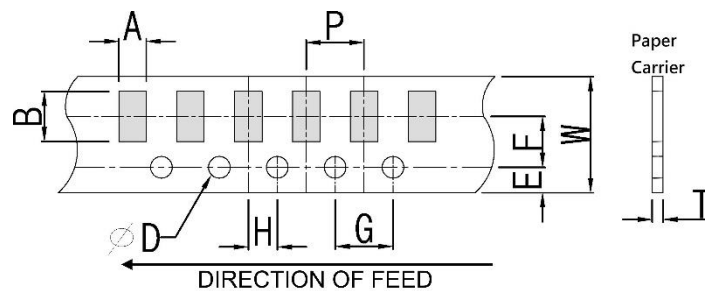
■ Reel Dimensions



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
2512/1225	7"	4K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	16.0±2.0

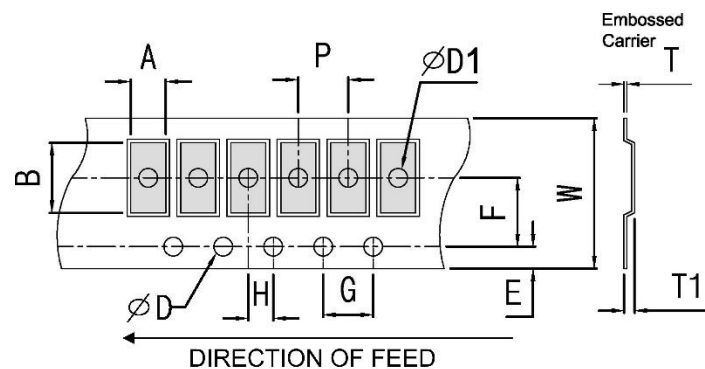
■ Paper Tape Dimensions



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		

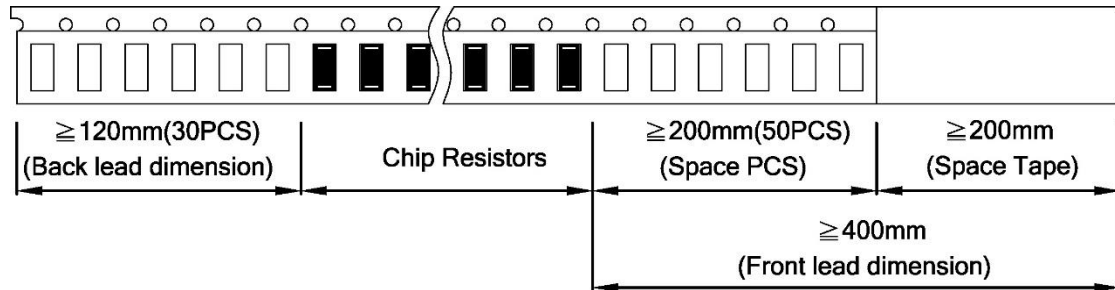
■ Plastic Embossed Tape Dimensions



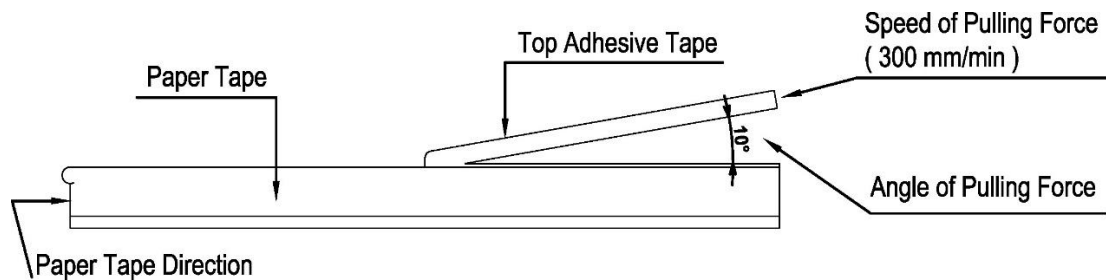
Unit: mm

Type	A	B	W	E	F	G	H	T	φD	φD1	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

Front & Back Lead Dimensions

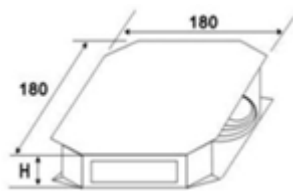


Top Adhesive Peel Off Strength : 10~70g

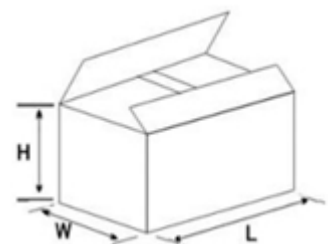


Package

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.