

# DATA SHEET

## SMD 1206 FAST ACTING FUSE JB12F Series

RoHS compliant & Halogen free



Product specification— June 25, 2023 V.0





### JB12F Series DataSheet

#### Scope

This specification is applicable to over-current protection thick film fuse for 1206 fast acting series produced by YAGEO corporation.


#### Applications

- LCD Displays
- Battery Packs
- Hard Disk Drives

#### Features

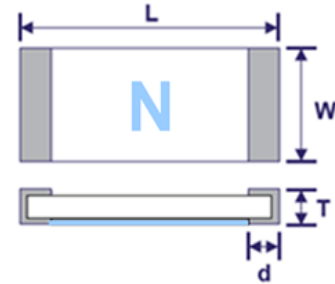
- Small Size, 1206 SMD
- Operating temperature -55°C to 125°C
- Excellent long-term stability
- Halogen Free
- Lead Free

#### Agency Approval

Agency	File Number	Ampere Range
	E531845	0.5A-40A

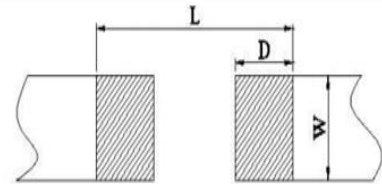
#### Dimensions

Series	L (mm)	W (mm)	T (mm)	d (mm)
JB12F	3.20±0.20	1.60±0.20	0.65±0.20	0.50±0.20



#### Recommended Land Patterns

Series	L (mm)	W (mm)	D (mm)
JB12F	4.56	2.03	1.52



#### Ordering Information

Part Number	Current Rating (A)	Voltage Rating (Vdc)	Interrupting	Typical DCR (mΩ) <sup>1</sup>	Typical I <sup>2</sup> t (A <sup>2</sup> s) <sup>2</sup>	Marking
JB12F5000R	0.50A	63Vdc	50A@63Vdc	1029	0.008	0.5
JB12F7500R	0.75A			850	0.028	.75
JB12F1001R	1.0A			240	0.095	H
JB12F1501R	1.5A			125	0.24	K
JB12F2001R	2.0A			80	0.48	N
JB12F2501R	2.5A			38	0.91	O
JB12F3001R	3.0A			32	1.33	P
JB12F3501R	3.5A			25	1.74	R
JB12F4001R	4.0A			20	2.03	S
JB12F5001R	5.0A			13	3.98	T
JB12F6001R	6.0A			15.5	4.34	F
JB12F7001R	7.0A			11.5	5.26	7
JB12F8001R	8.0A			7.6	7.02	M
JB12F1002R	10A			5.5	12.5	U
JB12F1202R	12A			48Vdc	200A@48Vdc	5

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**JB12F Series**

JB12F1502R	15A			3.4	22.8	15
JB12F2002R	20A			2.2	32.6	20
JB12F2502R	25A			1.5	48.9	25
JB12F3002R	30A			1.25	63.3	30
JB12F4002R	40A	36Vdc	200A@36Vdc	0.84	120.5	XL

NOTE:1. Measured at ≤10% rated current and 25°C  
 2. Nominal Melting I<sub>2t</sub> measured at 0.001s opening time

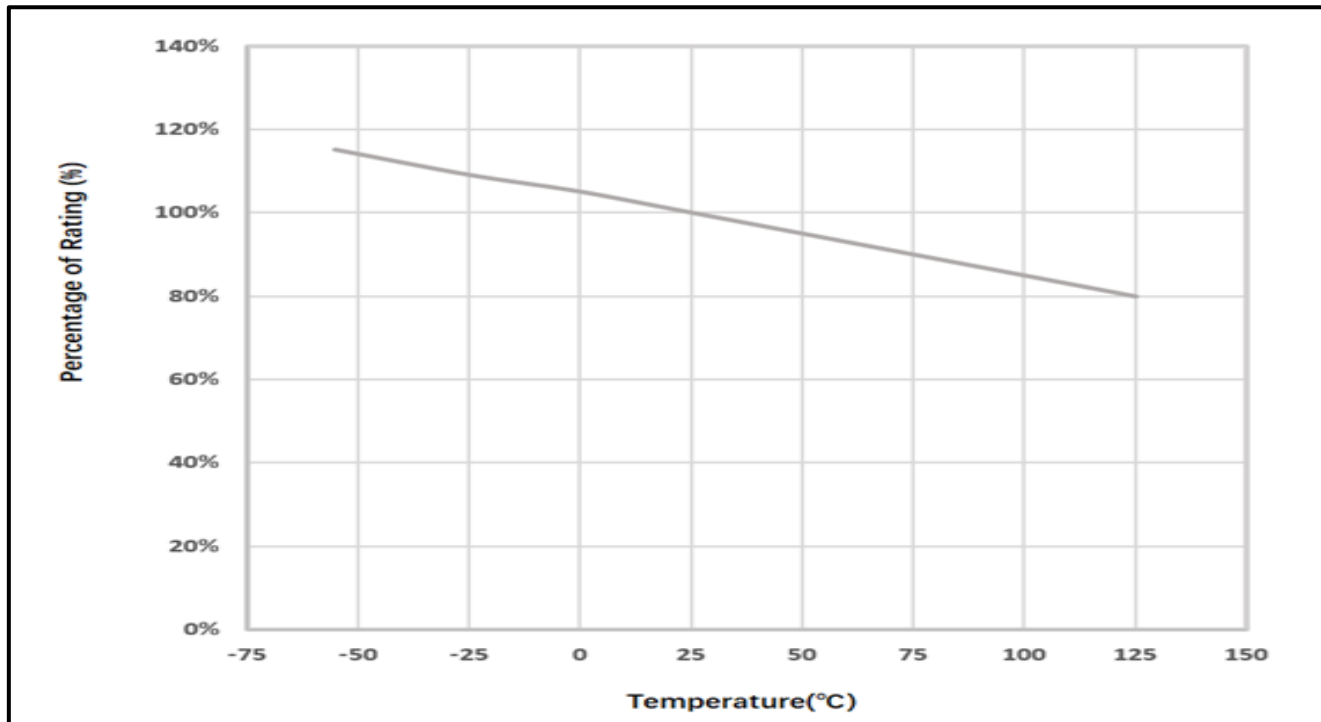
**Clearing Time Characteristics**

Rated Current	% of Current Rating	Clearing Time at 25°C	
		Min	Max
0.5A-40A	100%	4hours	/
0.5A-5.0A	200%	/	60s
6.0A-40A	300%	/	3s

**Part Number Code Rule**

J	B	12	F	1001	R
Product Code	Product Type	Size Type	Fusing Type	Current Rating	Package
J:Fuse	B: Thick Film	12:1206	F: Fast acting	5000:0.5A 1001:1A	R:Tape and Reel B: Bulk

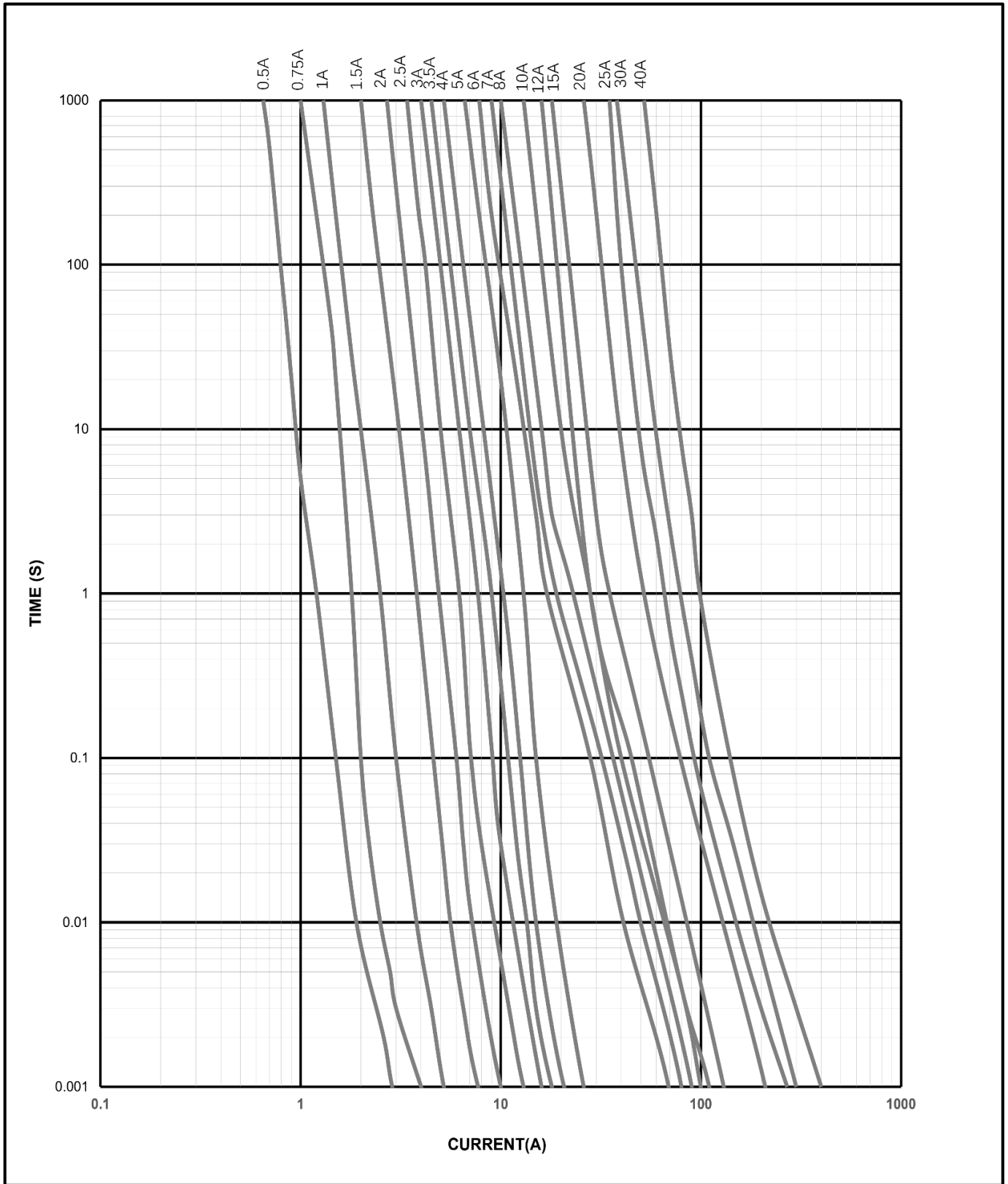
**Temperature Derating Curve**



**Time & Current Curve**

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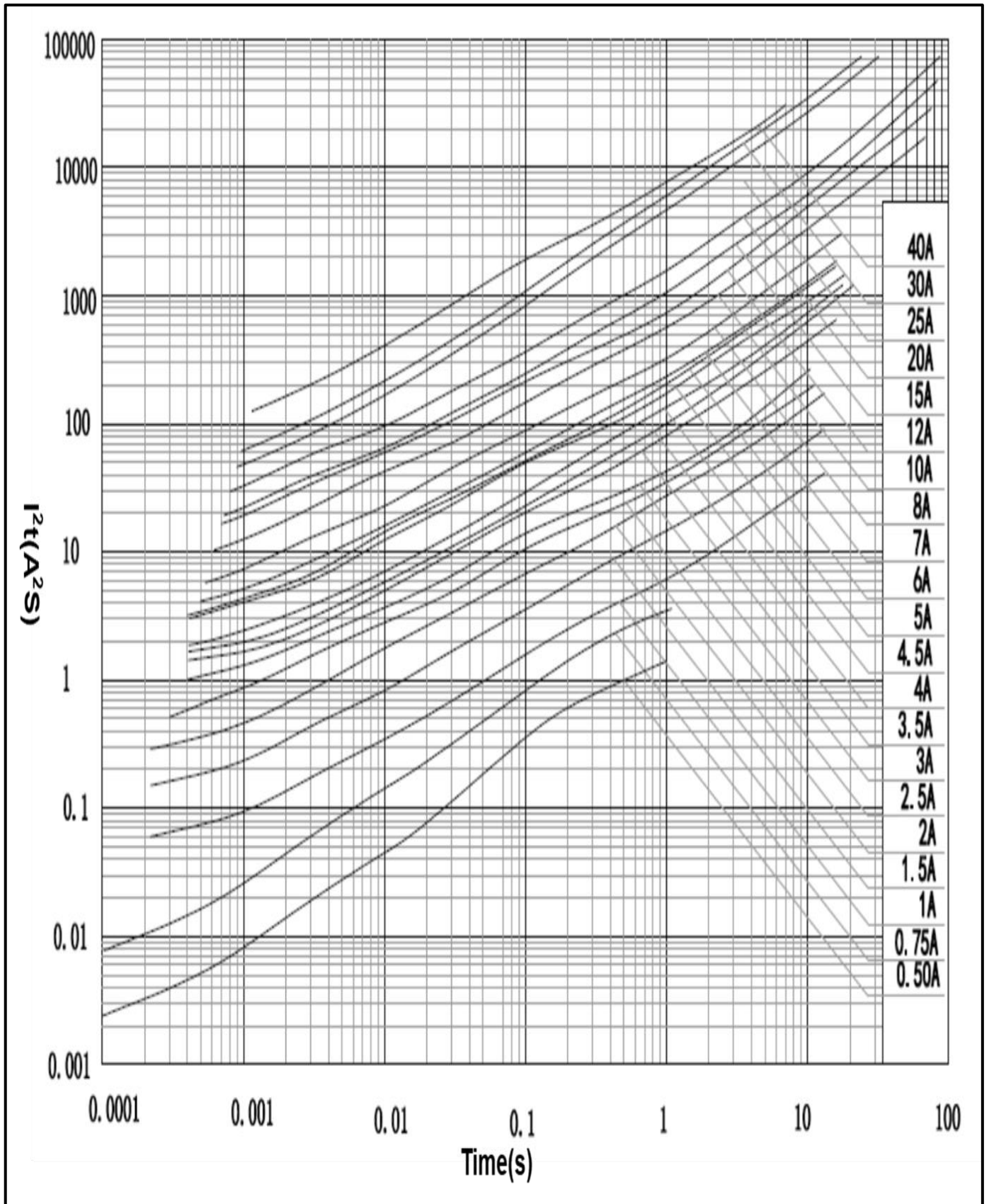
JB12F Series



I²t & Time Curve

SMD 1206 Fast Acting Fuse

JB12F Series



Reliability Test Performance

## SMD 1206 Fast Acting Fuse

## JB12F Series

Item	Test condition/ Methods	Performance	Standard
Time/Current Characteristics	100% Rated Current	No fusing within 4hr	UL248-14
	200% Rated Current	0.5A-5.0A : Max:60s	Refer to clearing time characteristics
	300% Rated Current	6.0A-40A:Max:3s	
Breaking Capacity	0.5A-10A: 50A@63Vdc 12A-30A: 200A@48Vdc 40A:200A@36Vdc	No a permanent arcing, ignition, bursting	UL248-14
Solderability	T=245°C±5°C, t=5s±0.5s	Cover ≥95%	MIL-STD-202 Method 208
Resistance to Soldering	Pre-heating:145°±15°C, max.120s Peak: 260°C, max.10s Reflow cycle: 2 times After immersion into solder, leaving the room temp. for 1h or more, and then measure the internal resistance.	△R<15% No crack and damage, Marking is easily legible	MIL-STD-202, Method 210F
Thermal Shock	-65°C, 15min→25°C, 5min→+125°C, 15min ; 100 cycles	△R<10% No crack and damage,	MIL-STD-202, Method 213B
Mechanical Shock	a=100G for 11ms, 5pulses	△R<10% No crack and damage	MIL-STD-202, Method 213B
Vibration	Frequency range:10~15~10Hz/min Vibration amplitude:1.5mm	△R<10% No mechanical damages	MIL-STD-202, Method 201A
Salt Spray	5% salt solution,48hr	△R<10% Legible appearance	MIL-STD-202, Method 101
Board Flex	Bending:1mm, time:60s	△R<15% No mechanical damages	IEC 60127-4

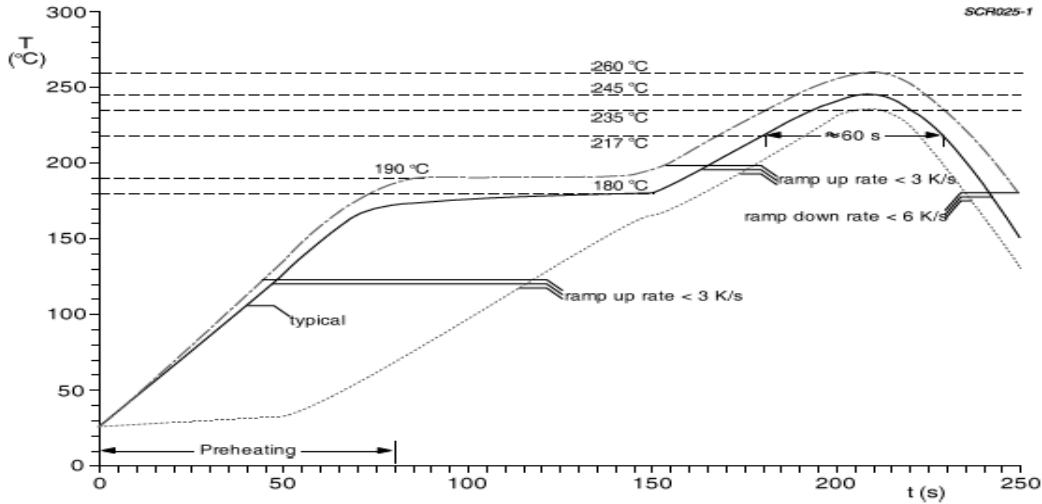
## Soldering Condition



SMD 1206 Fast Acting Fuse

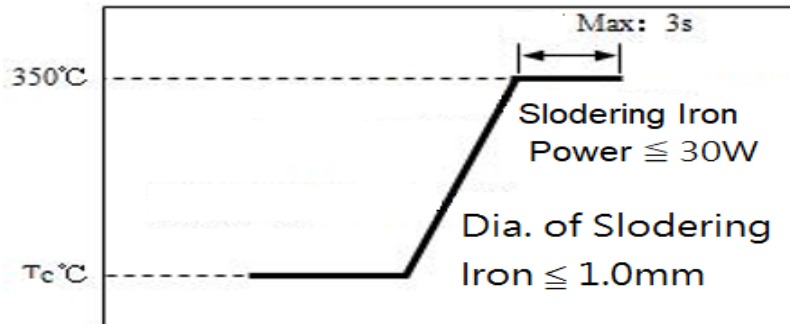
JB12F Series

Recommend Re-Flowing Profile



Item	Condition
Ramp	$< 3^\circ\text{C/sec.}$
Pre-heating	$145 \pm 15^\circ\text{C}$ , 120s max.
Time above $220^\circ\text{C}$	60s max.
Peak temperature	$260^\circ\text{C}/10\text{s max.}$

Recommend Soldering tip Temperature



Item	Condition
Iron soldering power	Max. 30W
Pre-heating time	60sec, $150^\circ\text{C}$
Soldering tip temperature	Max. $350^\circ\text{C}$
Soldering time	Max. 3sec

Note: Take care not to apply the tip of the soldering iron to the terminal electrodes.

Packaging Specification



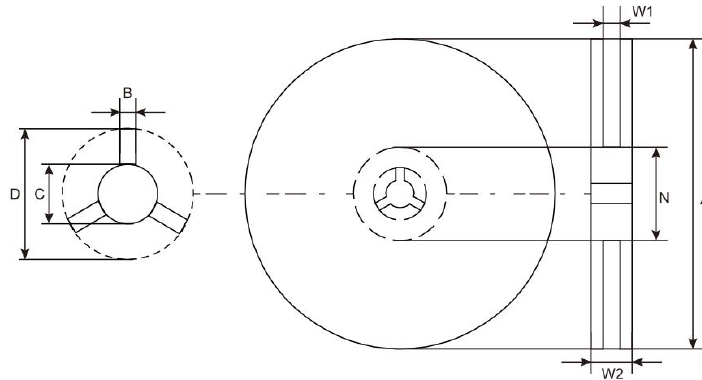
**SMD 1206 Fast Acting Fuse**

**JB12F Series**

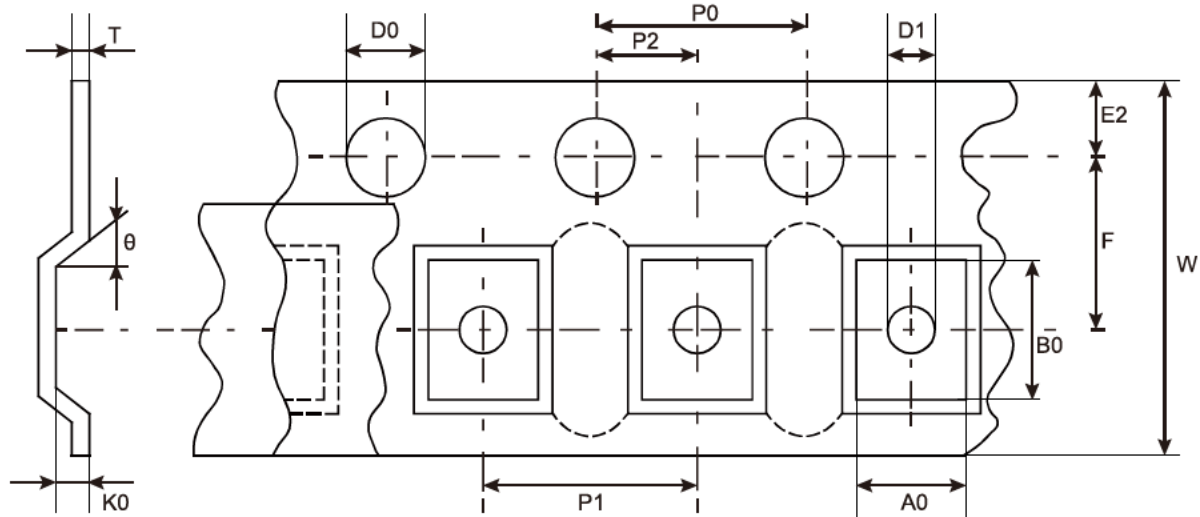
■ Quantity & Weight

Series	Quantity
JB12F	3000pcs/Reel

■ Reel & Tape Specification



Series	A (mm)	B (mm)	C (mm)	D (mm)	N (mm)	W1 (mm)	W2 (mm)
JB12F	178±5	1.6 Min.	12.8 Min.	20.8 Min.	58±2	8.4 Min.	12.4 Max.

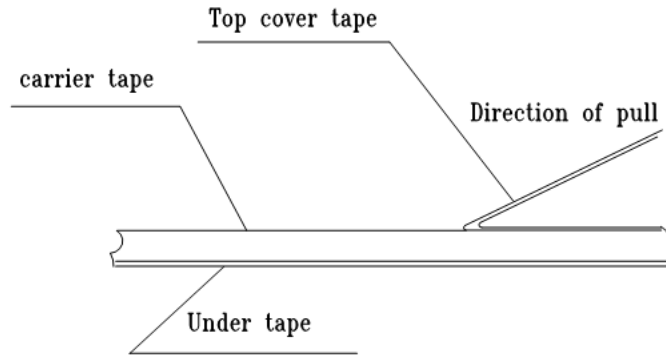


Series	A0 (mm)	B0 (mm)	D0 (mm)	D1 (mm)	E2 (mm)	F (mm)	K0 (mm)
JB12F	1.92±0.10	3.62±0.10	1.50 <sup>+0.1</sup>	1.00 min.	1.75±0.10	3.50±0.05	0.87±0.10
	P0 (mm)	P1 (mm)	P2 (mm)	T (mm)	W (mm)	θ (mm)	
	4.00±0.10	4.00±0.10	2.00±0.05	0.25±0.05	8.00±0.30	6° max.	

■ Peeling Strength of Seal Tape

The top cover tape is pulled at a speed of 300 mm/min with the angle between the tape during peel and

the direction of unreeling maintained at 165 to 180 degree as following picture. The peel force of paper carrier tape shall be 0.1N to 0.7N(10 to 70 g)



### Storage Conditions

- Storage Temperature: 10°C~+40°C
- Relative Humidity: ≤75%RH
- Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 2 year.

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