

1. Description, Features and Applications

Descriptions:

B10Cs 300V series Fast-Acting square Surface Mount fuses are ceramic tube/end cap constructions, RoHS compliant, Halogen Free and lead(Pb) exempts of the requirements of RoHS Directive(2002/95/EC), with U.S. (UL/CSA) safety agency approvals. Provide board level primary and secondary circuit protection in a wide variety of applications. With excellent inrush current withstanding capability, excellent reliability for thermal and mechanic shock, also have a high reliability and stable solder ability, end caps are available in gold/silver/nickel plated.

Features :

- *Fast-Acting (Fast-Acting)*
- *Wide range of current rating available*
- *Low temperature de-rating*
- *Tape and Reel for automatic placement*
- *Small size(6.1mm*2.5mm)*
- *Wide operating temperature range*
- *RoHS compliant*
- *Conflict free metals*

Applications:



- LED lighting
- LCD backlight inverter
- PC server
- Wireless base station
- Digital camera
- Notebook PC
- Portable Devices
- Cooling fan system
- White goods
- Industrial equipment
- Battery devices
- Power supply
- Storage system
- Game console
- Medical equipment
- LCD/PDP devices
- Networking devices
- Telecom system
- Office equipment
- Automotive devices

2. Standards and Agency Approvals



2.1 UL 248-14.

Standards: In accordance with UL 248-14.

2.2 Certification:

Agency	Ampere Range	Agency File Number
	50mA ~ 7A	E340427(JDYX2)
	50mA ~ 7A	E340427(JDYX8)

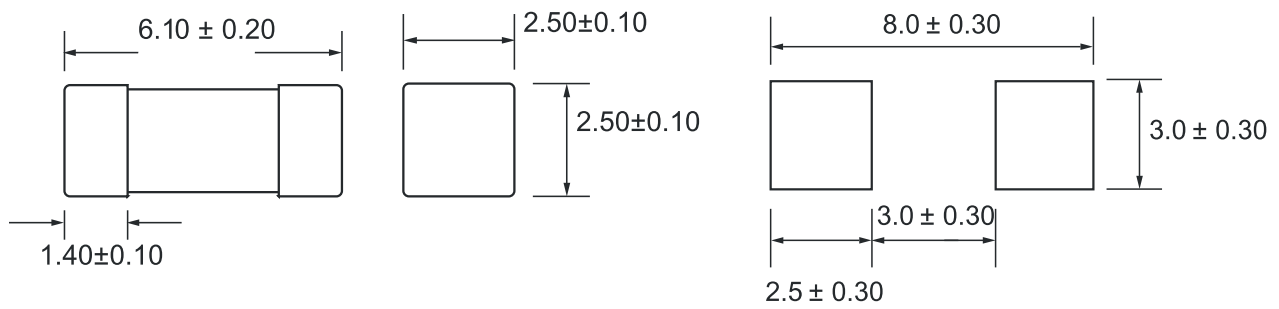
2.3 Catalogue No. • Approved / ○ Pending

Catalog No.	Ampere Rating	Voltage Rating	Breaking Capacity	Nominal Cold Resistance (Ohms)	I ² T Melting Integral (A ² .S)	Agency Approvals	
							
B10Cs160-300	160mA	300VAC	50A@300VAC 50A@250VAC 200A@125VAC	2.308	0.056	●	●
B10Cs200-300	200mA			1.655	0.060	●	●
B10Cs250-300	250mA			1.456	0.063	●	●
B10Cs300-300	300mA			0.855	0.190	●	●
B10Cs315-300	315mA			0.656	0.200	●	●
B10Cs375-300	375mA			0.605	0.328	●	●
B10Cs400-300	400mA			0.580	0.335	●	●
B10Cs500-300	500mA			0.302	0.471	●	●
B10Cs600-300	600mA			0.268	0.771	●	●
B10Cs630-300	630mA			0.259	0.982	●	●
B10Cs700-300	700mA			0.233	2.102	●	●
B10Cs750-300	750mA			0.227	2.230	●	●
B10Cs800-300	800mA			0.205	2.375	●	●
B10CsA01.00-300	1A			0.129	3.685	●	●
B10CsA01.25-300	1.25A			0.095	3.755	●	●
B10CsA01.50-300	1.5A			0.089	6.751	●	●
B10CsA01.60-300	1.6A			0.078	6.800	●	●
B10CsA02.00-300	2A			0.039	12.140	●	●
B10CsA02.50-300	2.5A			0.036	16.005	●	●
B10CsA03.00-300	3A			0.028	21.550	●	●
B10CsA03.15-300	3.15A			0.027	25.740	●	●
B10CsA03.50-300	3.5A			0.026	30.041	●	●
B10CsA04.00-300	4A			0.020	43.201	●	●
B10CsA05.00-300	5A			0.015	55.240	●	●
B10CsA06.00-300	6A			0.013	75.205	●	●
B10CsA06.30-300	6.3A			0.011	93.540	●	●
B10CsA07.00-300	7A			0.010	97.100	●	●

- *: These catalog no. cold resistance and I²t value are pending due to fuse elements shall be customized;
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25 °C;
- Typical Pre-arching I²t are calculated at 10*In Current or 8ms;
- Min Interrupting Rating: 1.35*In.

3. Dimensions and Structure

Unit: mm



4. Material Details

NO.	Part Name	Material
①	End caps	Gold Plated Brass Cap
②	Body	Non-Transparent Square Ceramic Tube
③	Fuse element	Cu Ag-Alloy wire

5. Product Characteristics

NO.	Item	Content	Reference standards
1	Product Marking	Brand, Ampere Rating	Marking standards
2	Operating Temperature	-55°C to 125°C	IEC60068-2-1/2

3	Solderability	T=240°C ± 5°C , t=3sec ± 0.5sec, Coverage ≥ 95%	MIL-STD-202, Method 208
4	Resistance to Soldering Heat	10 sec at 260°C	MIL-STD-202, Method 210, Test condition B
5	Insulation Resistance (after Opening)	10,000 ohms minimum	MIL-STD-202, Method 302, Test Condition A
6	Thermal Shock	5 cycles, -65°C / +125°C, 15 minutes at each extreme	MIL-STD-202, Method 107, Test Condition B
7	Mechanical Shock	100G's peak for 6 milliseconds, 3cycles	MIL-STD-202, Method 213, Test I
8	Vibration	0.03" amplitude, 10-55 Hz in 1 min. 2hrs each XYZ=6hrs	MIL-STD-202, Method 201
9	Moisture Resistance	10 cycles	MIL-STD-202, Method 106
10	Salt Spray	5% salt solution, 48hrs	MIL-STD-202, Method 101, Test Condition B

6. Electrical Characteristics

6.1 Test Condition

All electrical test is to be conducted with the ambient air at a temperature of 25±5 °C.

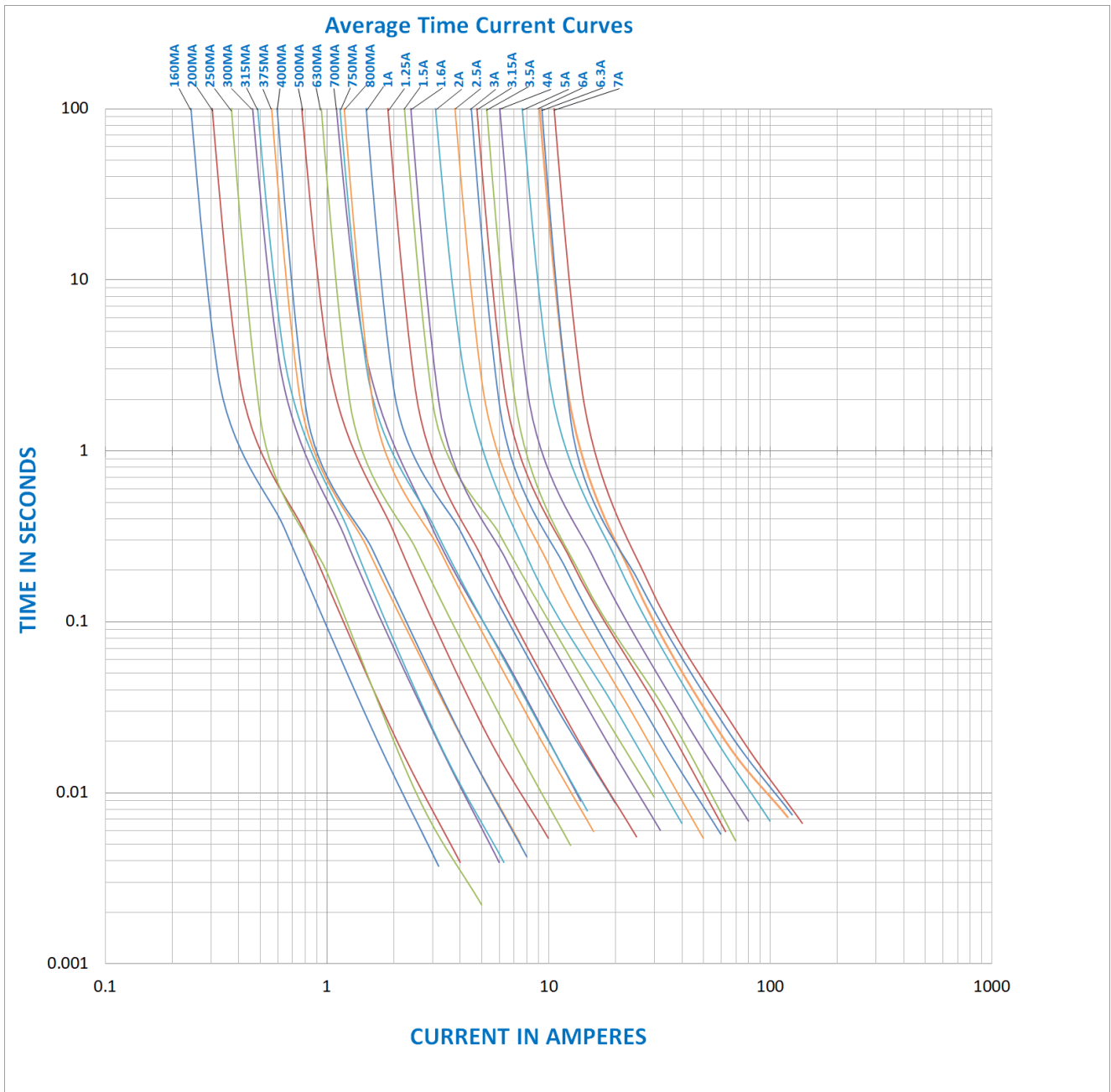
6.2 Interrupting Rating:

Breaking Capacity: 50A@250Vac, 50A@300Vac.

6.3 Operating Characteristics

% of Ampere Rating (In)	Blowing Time
100% * In	4 hours Min
200% * In	120 sec Max

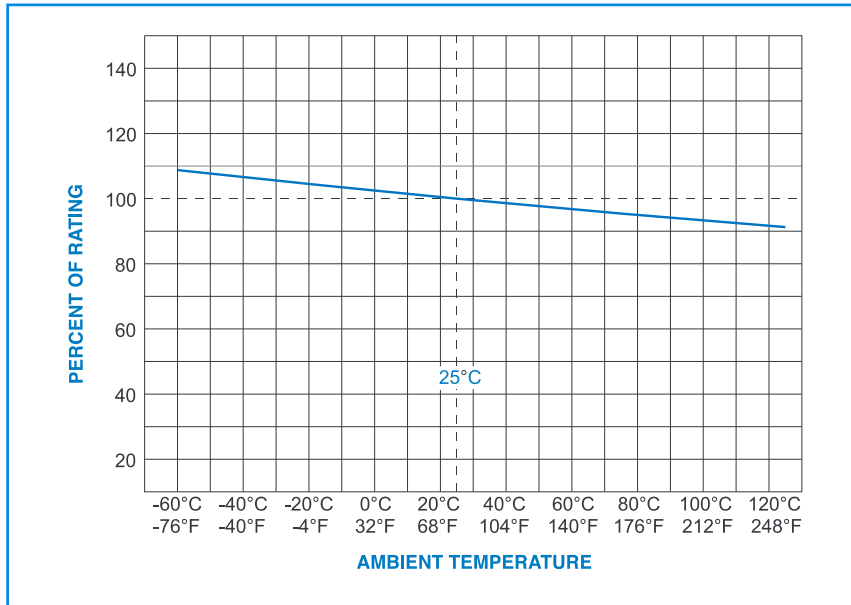
6.4 Average Time Current Curves



7. Environmental Characteristic

When choosing the fuse's specification, if the operating environmental temperature beyond the scope from 20~30°C, engineer should consider the environmental temperature's affection to fuses.

Please refer: Temperature Rerating Curve:



8. Recommended Soldering Parameters

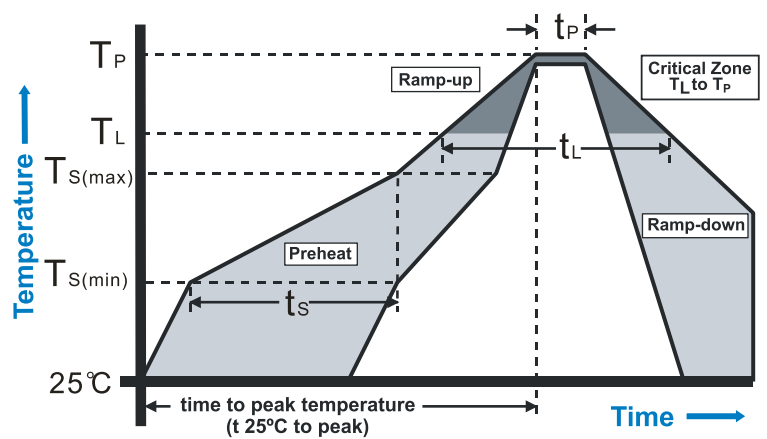
A. Wave /Reflow Soldering Parameters:

Solder paste process.

Solder Pot Temperature: 260°C Max

Solder Dwell Time: 5 seconds max

Reflow Condition		Pb-Free assembly
Average ramp-up rate (Ts(max) to Tp)		5°C /second max.
Preheat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (Min to Max) (ts)	60-120 seconds
Reflow	Temperature (TL)	220°C
	Time Max (tL)	60 seconds
Peak Temperature(Tp)		260°C max
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (Tp)		8 minutes max



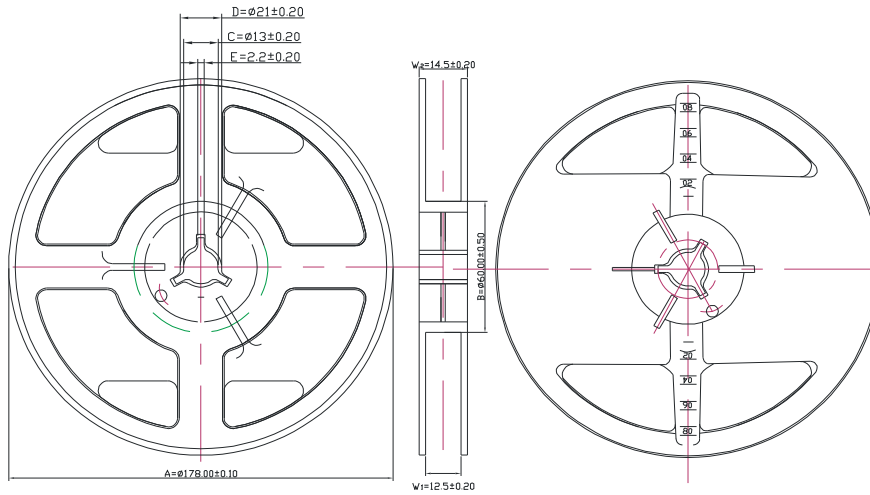
B. Hand-Solder Parameters:

Solder Iron Temperature: $300 \pm 5^\circ\text{C}$

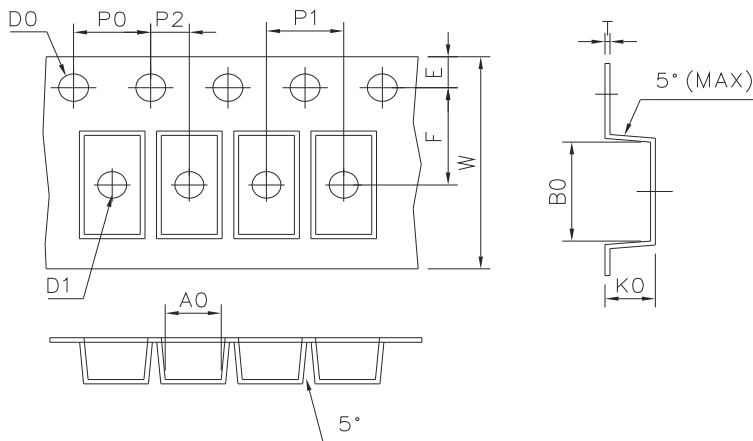
Heating Time: 1~2 s Max

9. Packaging

1,000 pcs in 7 inches dia. reel, 12mm wide tape, EIA Standard 481



Item	A	B	C	D	E	W1	W2
Spec.(mm)	178±0.10	60±0.50	13±0.20	21±0.20	2.2±0.20	12.5±0.20	14.5±0.20



Item	A_0	B_0	D_0	D_1	E	F
Spec.(mm)	2.70±0.10	6.40±0.10	1.50±0.10	1.50±0.25	1.75±0.10	5.50±0.10
Item	K_0	P_0	P_1	P_2	W	t
Spec.(mm)	2.70±0.10	4.00±0.10	4.00±0.10	2.00±0.10	12.00±0.15	0.25±0.05