Innovative Service Around the Globe YAGEO

DATA SHEET

HIGH CURRENT FUSE

JC28F Series, 20-125A

RoHS compliant & Halogen free







Product specification– June 25, 2023 V.0

REVISED RECORD SHEET

REV.#	PAGES	REV.DATE	REVICED CONTENT
A0	1-7	2023-06-06	First version
A1	P8	2023-06-23	P8 add leagal disclaimer

JC28F Series DataSheet

Scope

The JC28F series provides surface mount overcurrent protection with current from 20A to 125A，This series is specially customized for use in BMS and UPS product circuit protection.

Applications

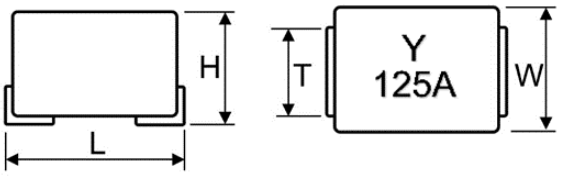
- Power tools
- Telecom DC/DC power
- Battery and BMS

Features

- RoHS & Halogen free compliant
- Operating temperature -55℃ to 125℃
- Excellent long-term stability

Dimensions

SMD Series	L (mm)	W (mm)	H (mm)	T (mm)
JC28F	7.3±0.2	5.8±0.3	4.2±0.3	4±0.2

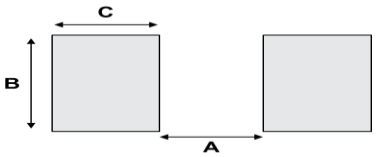


Agency Approval

Agency	File Number	Ampere Range
c UL us	***E533612***	20A-125A

Recommended Land Patterns

SMD Series	A (mm)	B (mm)	C (mm)
JC28F	4.4±0.2	5.8±0.2	2.7±0.2



Dimensions of Standard Test Board

Type	Current Rating (A)	Board Thickness (mm)	Copper Layer Thickness (mm)	Copper Trace Width (mm)
JC28F	20A~50A	1.6	0.105	22
	60A~125A	1.6	0.210	33

Ordering Information

Part Number	Current Rating (A)	Voltage Rating (Vdc)	Interrupting	Nominal DCR (mΩ)[1]	Nominal I^2t (A^2s)[2]
JC28F2002R	20	85	1500A@85Vdc	1.8	250
JC28F3002R	30			1.21	420
JC28F4002R	40			0.82	868
JC28F5002R	50			0.65	1205
JC28F6002R	60			0.51	1732
JC28F7002R	70			0.43	2380
JC28F8002R	80			0.35	3020
JC28F9002R	90			0.32	3600
JC28F1003R	100			0.29	4300
JC28F1203R	120			0.26	7800
JC28F1253R	125			0.23	8950

NOTE:1. Measured at≤10% rated current and 25℃

2.Melting I^2T at 10 times of rated current

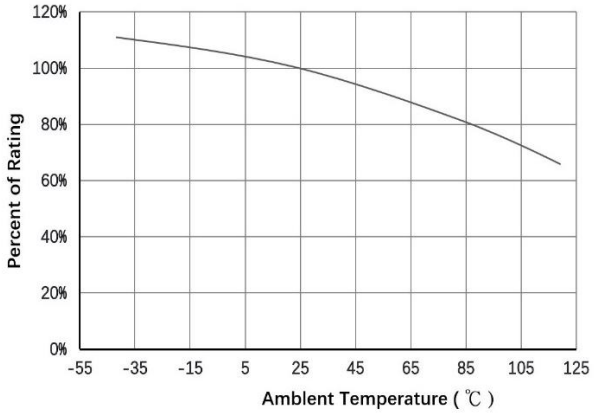
Clearing Time Characteristics

% of Current Rating	Clearing Time at 25℃	
	Min	Max
100%	4hours	
250%		60sec
1000%	1ms	

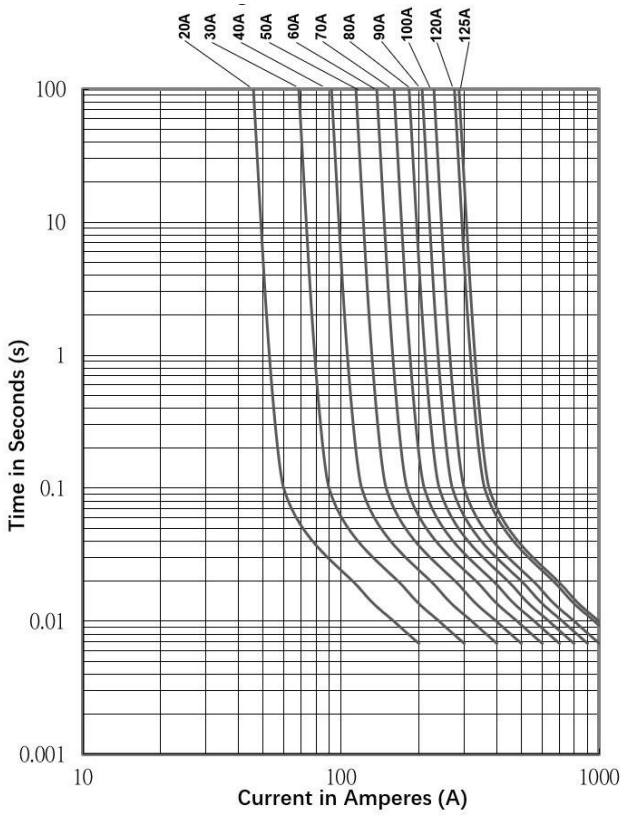
Part Number Code Rule

J	C	28	F	2002	R
Product Code	Product Type	Size Type	Fusing Type	Current Rating	Package
J:Fuse	C: Ceramics	28:2822	F: Fast acting	2002:20A 1253:125A	R:Tape and Reel B:Bulk

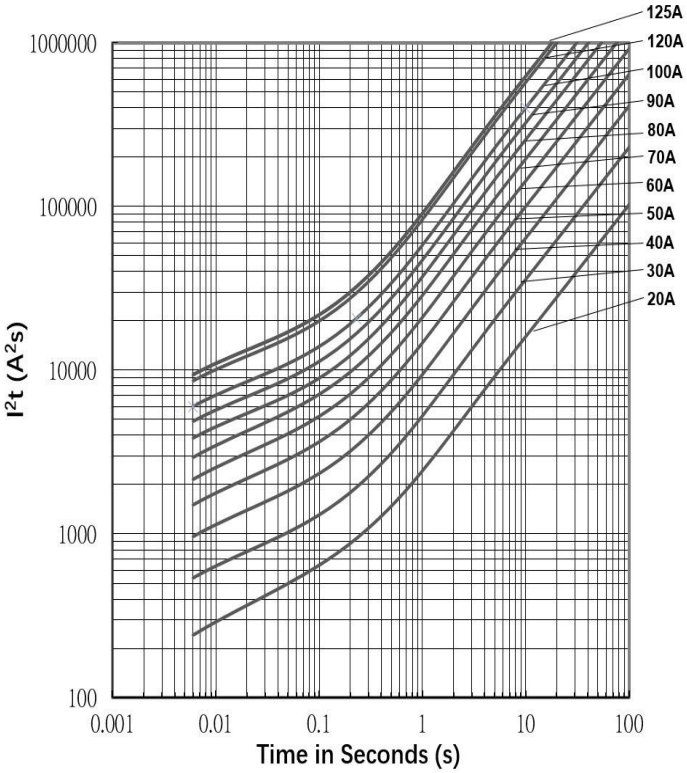
Temperature Derating Curve



Time & Current Curve



I²t & Time Curve

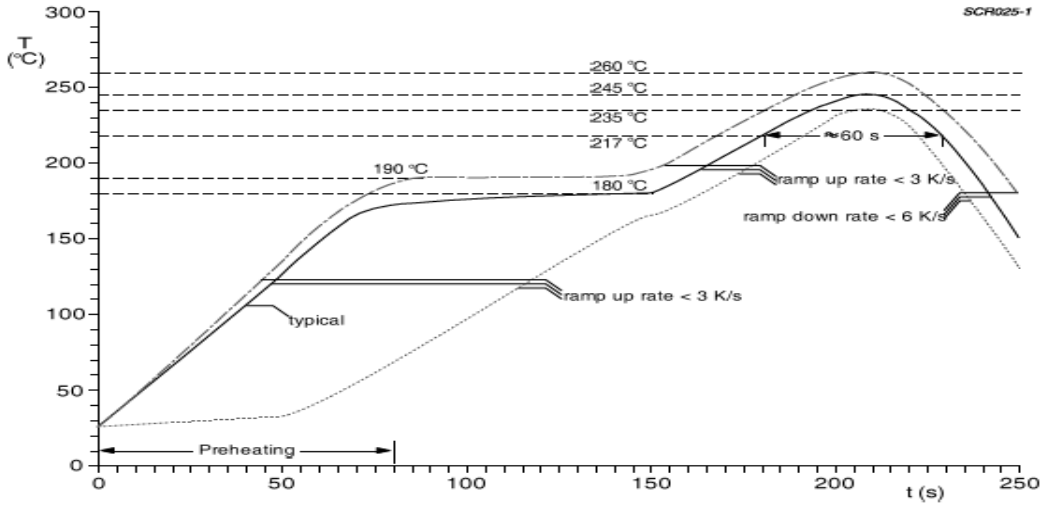


Reliability Test Performance

Item	Test condition/ Methods	Performance	Standard
Time/Current	100% of current rating	No Fusing, 4hours Min.	UL248-14
	250% of current rating	Max.60sec	YAGEO SPEC
	1000% of current rating	Min.1msec	IEC60127-4
Solderability	245℃±5℃, 3sec±0.5sec	95% coverage Min.	IEC60127-4 IEC60068-2-20; MIL-STD-202
Insulation Resistance	Test Condition A, 0.01MΩ Min.	0.01MΩ Min.	MIL-STD-202 Method 302
Resistance to Soldering	260℃±5℃, 10sec±0.5sec	|△R|: <15%	MIL-STD-202 Method 210
High Temperature Exposure	T=125℃±2℃,96 hours	|△R|: <15%	IEC60068-2-2
Moisture Resistance	T=65℃±2℃,90-98%RH,10 Cycles	|△R|: <15% no excessive corrosion	MIL-STD-202 Method 106
Salt Spray	5% salt solution, 48 hours	|△R|: <15%	MIL-STD-202 Method 101
Thermal Shock	Test Condition B: 5 cycles，-65℃±2℃ to +125℃±2℃	|△R|: <15%	MIL-STD-202 Method 107
High Temperature Operating Life	T=70℃±2℃, 60% of current rating, 96 hours	|△R|: <15%	MIL-STD-202 Method 108
Vibration	30g's for 20min,test from10Hz-55Hz	|△R|: <15%	MIL-STD-202 Method 204
Mechanical shock	Test Condition I (100 G's peak for 6 msec)	|△R|: <15%	MIL-STD-202 Method 213
Board Flex	2mm bend,60s minimum holding time	|△R|: <15%, no mechanical damage	AEC-Q200-005

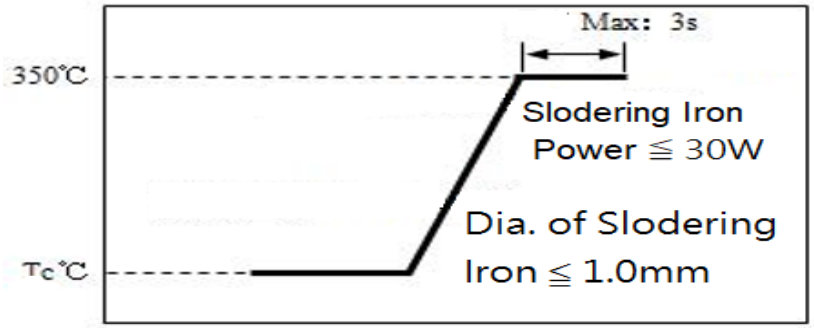
Soldering Condition

Re-Flowing Profile



Item	Condition
Ramp	<3° C/sec.
Pre-heating time	80±10sec 150~180° C
Time above240° C	20~40sec
Peak temperature	260° CMax./10sec
Solder paste	Sn/3.0, Ag/0.5Cu
Max. times for re-flowing.	2 times

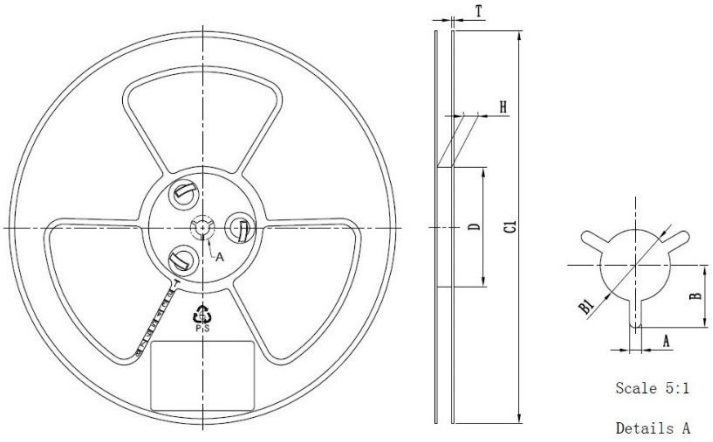
Soldering tip temperature



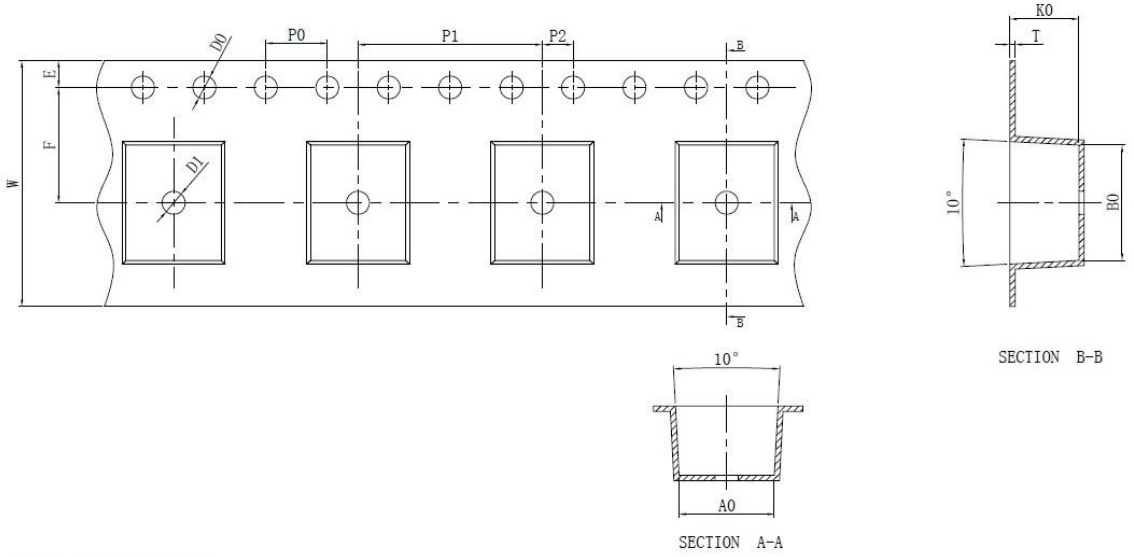
Item	Condition
Iron soldering power	Max. 30W
Pre-heating time	60sec, 150° C
Soldering tip temperature	Max. 350° C
Soldering time	Max. 3sec
Solder paste	Sn/3.0Ag/0.5Cu
Max. times for iron soldering	1times

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

Packaging Specification



SMD Series	A (mm)	B (mm)	B1 (mm)	C1 (mm)	D (mm)	H (mm)	T (mm)
JC28F	2.5±0.5	10.5±0.5	$13.0^{+0.5}_{-0.2}$	330.0±2.0	100.0±1.0	16.8±0.5	2.0±0.2



SMD Series	A_0 (mm)	B_0 (mm)	W (mm)	E (mm)	F (mm)	P_0 (mm)
JC28F	6.2±0.1	7.5±0.1	16.0±0.3	1.75±0.1	7.5±0.1	4.0±0.1
	T (mm)	P_1 (mm)	P_2 (mm)	K_0 (mm)	D_0 (mm)	D_1 (mm)
	0.35±0.05	12.0±0.1	2.0±0.1	4.5±0.1	1.5+0.1	1.5+0.1

Storage Conditions

- Storage Temperature: 5ºC~+40ºC
- Relative Humidity: ≤75%RH
- Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.

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