BS1280N-C1-L

Order Code: BS1280N-C1-L

Thyristor Surge Suppresser

Version: A0 2021/11/14

Features

- Excellent capability of absorbing transient surge
- Quick response to surge voltage (nS Level)
- Eliminates overvoltage caused by fast rising transients
- Moisture sensitivity level: Level 1
- Non degenerative
- Uni-directional

Exterior

DO-214AA（SMB）

Application Information

- POE
- DC Power

Package (Top View)

Pin1 Pin2

Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

Schematic Symbol

Part Number and Electrical Parameter

Part Number	I_{DRM}@ V_{DRM}		I_{DRM}@ V_{DRM}①		V_S②@ I_S		V_T@ I_T		I_H	C_O ③
	μA	V	μA	V	V	mA	V	A	mA	pF
	MAX		MAX		MAX		MAX		MIN	MAX
BS1280N-C1-L	5	116	10	300	160	800	4	2.2	30	100

Absolute maximum ratings measured at TA= 25ºC RH = 45%-75% (unless otherwise noted).

① I_{DRM} is measured at V_{DRM}=300V（Pin 1 to Pin2 ）

②Vs is measured at 100KV/S

③ Off-state capacitance is measured at V_{DC}=2V, V_{RMS}=1V, f=1MHz

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Part Numbering System

BS	1280	N	—	C	1	—	L
(1)	(2)	(3)		(4)	(5)		(6)

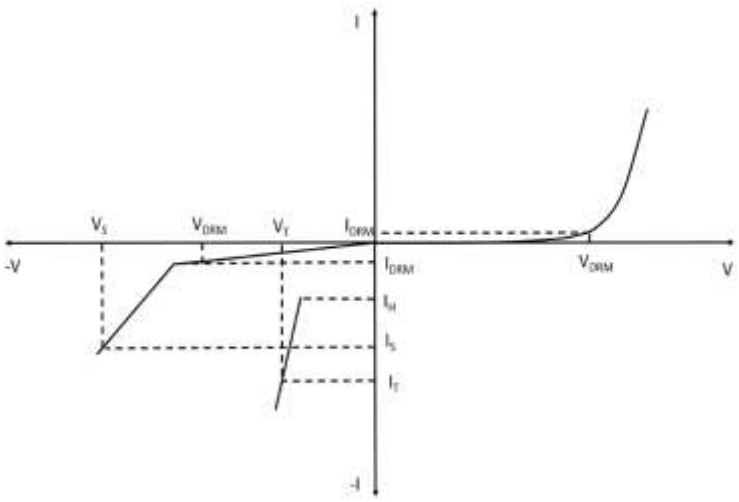
(1) Bencent Semiconductor Surge Arrester
(2) Off-state Voltage : e.g.128=128×10^0=128V
(3) Package: DO-214AA (SMB)
(4) Rating Surge Voltage: 8/20@IPP=1KA@85℃
(5) UNI-directional
(6) Internal Control

Mark

B12NC1L: Part Number
2111: November, 2021

V-I Curve

Parameters	Definition
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state Current
V_S	Switching Voltage
I_S	Switching Current
I_H	Holding Current
V_T	On-state voltage
I_T	On-state current
C_O	Off-state capacitance



Surge Ratings

Item	Waveform	VC (max)
Current Waveform	8/20μs@1KA	170V
Voltage Waveform	10/700μs@6KV	160V

Bencent only makes the test for 8/20μs@1000A

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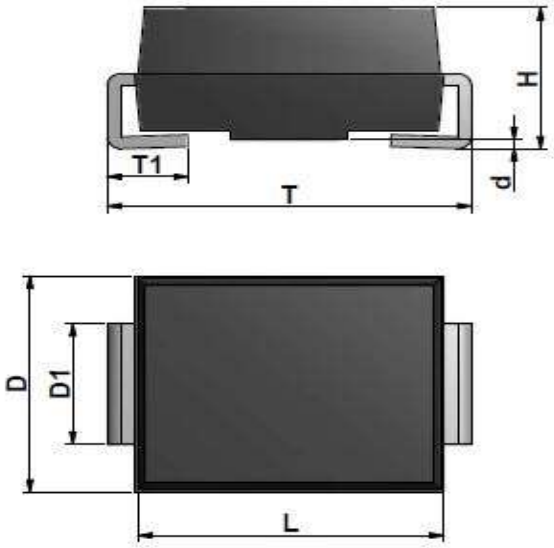
Thermal Considerations

Symbol	Parameter	Value	Unit
TJ	Operating Junction Temperature Range	-55 to +150	℃
TS	Storage Temperature Range	-55 to +150	℃

Product Characteristics

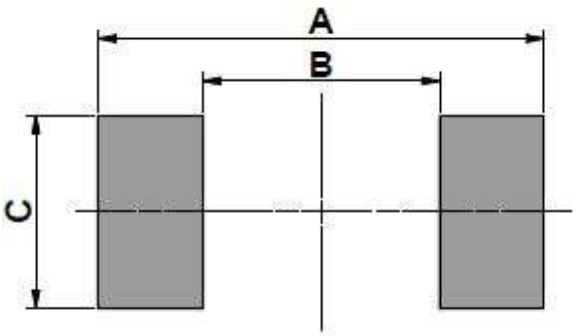
Lead Material	Copper Alloy
Terminal Finish	100% Matte-Tin Plated

Product Dimensions



REF.	mm	inch
D	3.6±0.3	0.142±0.012
D1	2±0.15	0.079±0.006
L	4.6±0.3	0.181±0.012
T	5.4±0.3	0.213±0.012
T1	1.1±0.3	0.043±0.012
d	0~0.4	0~0.016
H	2.10~2.60	0.083~0.102

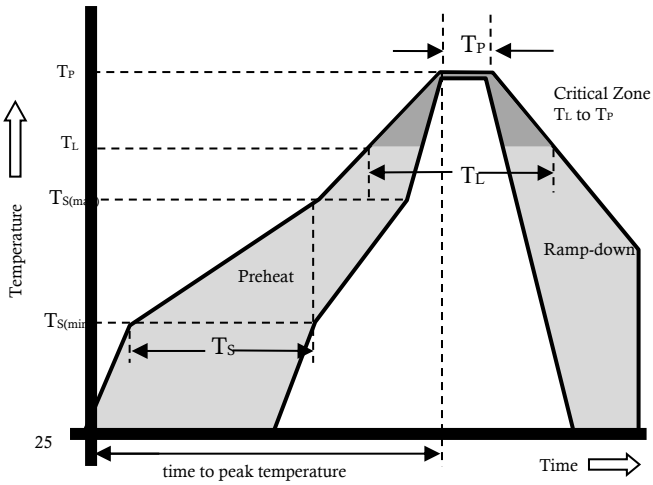
Recommended Soldering Pad



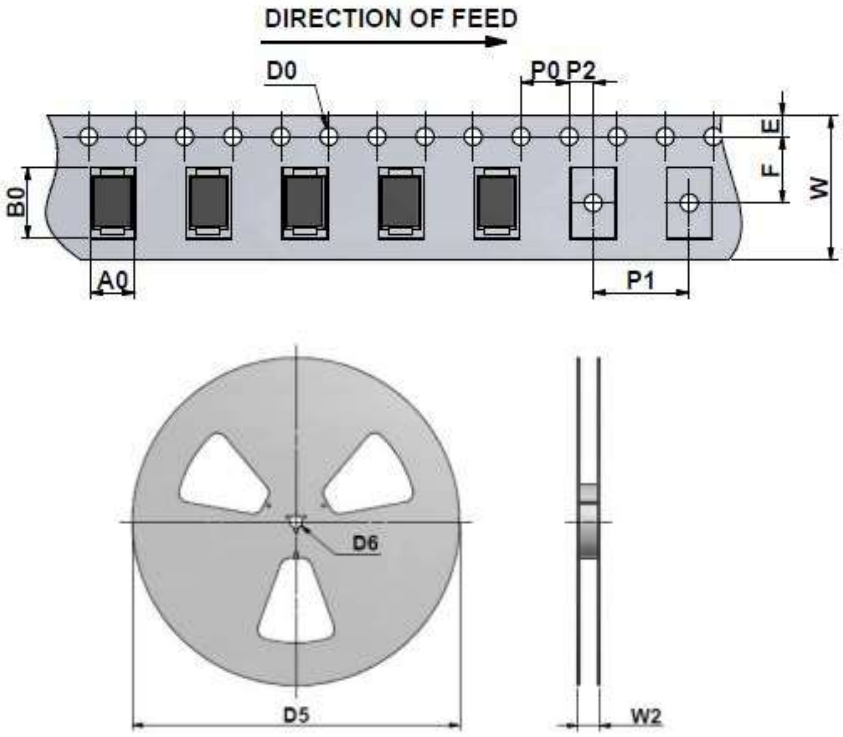
REF	mm	inch
A	5.45±0.5	0.215±0.02
B	2.45±0.5	0.096±0.02
C	2.15±0.5	0.085±0.02

Reflow Profile

Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time (Min to Max)	60 – 180 seconds
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (T_L)	60 – 150 seconds
Peak Temp (T_P)		260+0/-5 °C
Time within 5°C of actual Peak Temp (T_P)		8-15 seconds
Ramp-down Rate		6°C/s max
Time 25°C to peak Temp (T_P)		8 min max.
Do not exceed		260°C



Package Reel Information



REF.	mm	inch
W	12±1	0.472±0.039
E	1.75±0.3	0.069±0.012
F	5.5±0.3	0.217±0.012
D0	1.55±0.15	0.061±0.006
D1	1.5±0.2	0.059±0.008
P0	4.0±0.2	0.157±0.008
P1	8.0±0.2	0.315±0.008
P2	2.0±0.2	0.079±0.008
A0	3.6±0.3	0.142±0.012
B0	5.7±0.3	0.224±0.012
D5	Ø330	Ø13
D6	Ø13.5±1.0	Ø0.531±0.039
W2	18±2.0	0.709±0.079

Outline	Reel (pcs)	Per Carton (pcs)	Reel Diameters (mm)	Carton Size(mm)		
				L	W	H
Taping	3,000	48,000	330	360	360	385