Senchip

TVS Series

TRANSIENT VOLTAGE SUPPRESSORS 1500W SMCJ58CA ROHS

Description

The SMCJ series is designed specifically to protectsensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has UL flammability classification 94V-O
- Typical IR less than 5uA above 10V
- Fast response time: typically less than 1.0ps from 0 Volts to V_{BR} min

Maximum Ratings And Electrical Characteristics

Part Number (BI)	Reverse Stand Off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@I_T		Test Current I_T (mA)	Maximun Clamping Voltage V_C@I_{PP}(V)	Maximun Peak Pulse Current I_{PP} (A)	Maximun Reverse Leakage I_R@V_R (μA)
		MIN	MAX				
SMCJ58CA	58.0	64.40	74.10	1	93.6	16.0	5

For bidirectional type having V_{RWM} of 10 volts and less, the I_R limit is double.
For parts without A (V_{BR} is ± 10% and V_C is 5% higher than with A parts).

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25℃ by 10x1000μs waveform (Fig.1)(Note 1), (Note 2)	P_{PPM}	1500	W
Power Dissipation on infinite heat sink at TA=50℃	$P_{M(AV)}$	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I_{FSM}	200	A
Maximum Instantaneous Forward Voltage at 25A for Unidirectional only (Note 4)	V_F	3.5V/5	V
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-65 to 150	℃
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	15	℃/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	75	℃/W

Notes:
1. Non-repetitive current pulse, per Fig.3 and derated above TA=25℃ per Fig. 2.
2. Mounted on 5.0x5.0mm copper pad to each terminal.
3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only.
4. VF < 3.5V for V_{BR} ≤ 200V and VF< 6.5V for VBR ≥ 201V.

Rating And Characteristic Curves

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 1 - Peak Pulse Power Rating

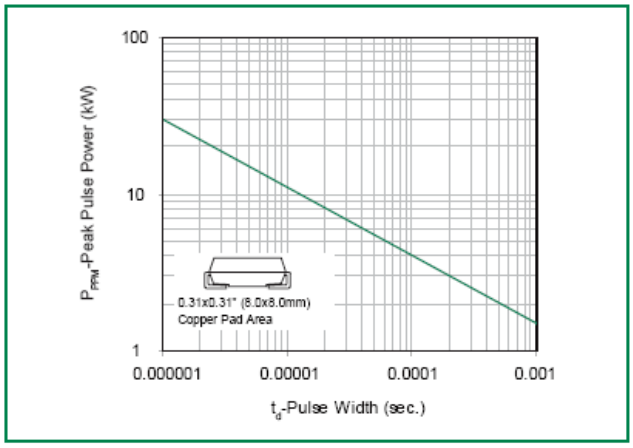


Figure 2 - Pulse Derating Curve

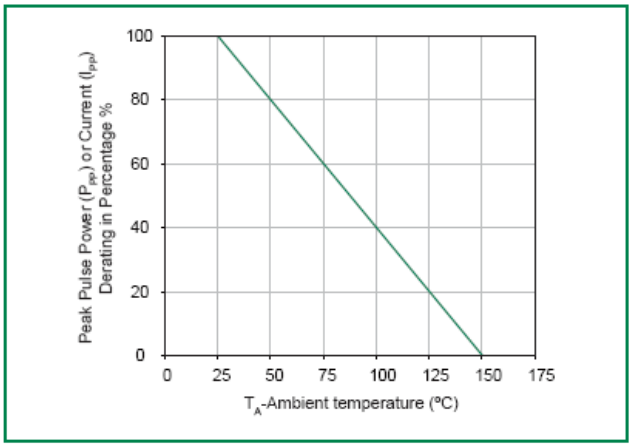


Figure 3 - Pulse Waveform

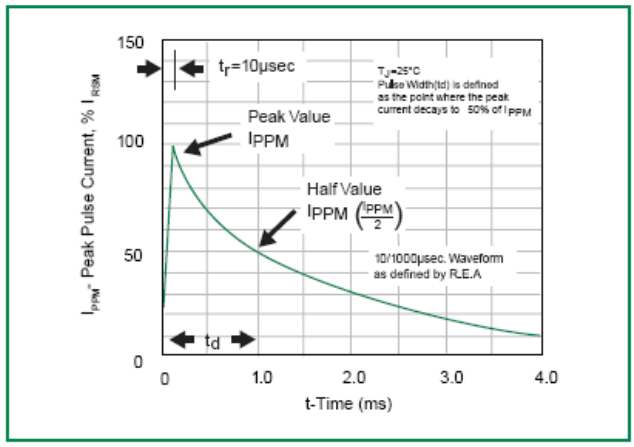


Figure 4 - Typical Junction Capacitance

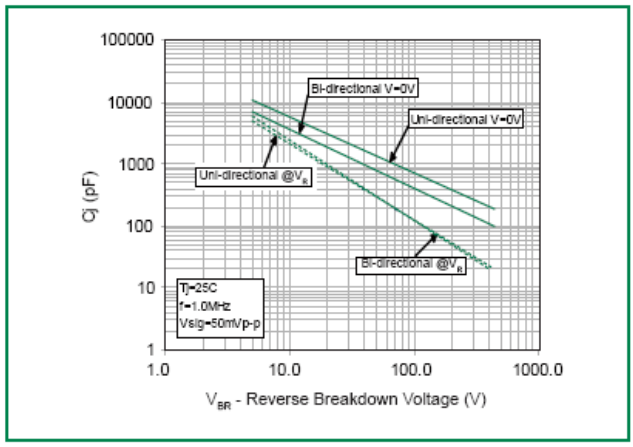


Figure 5 - Steady State Power Dissipation Derating Curve

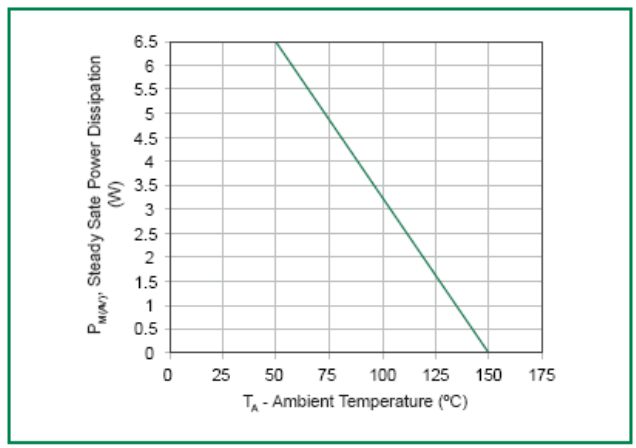
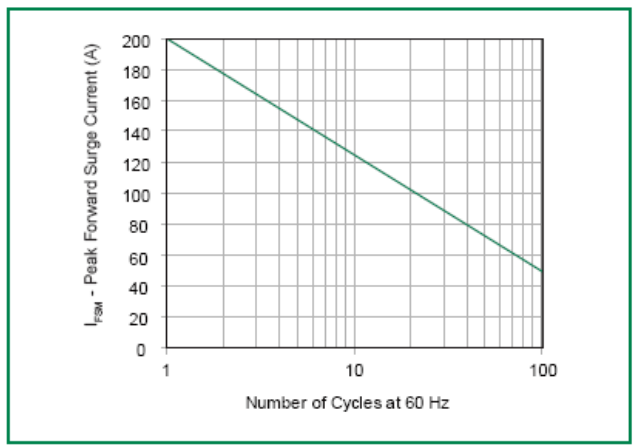
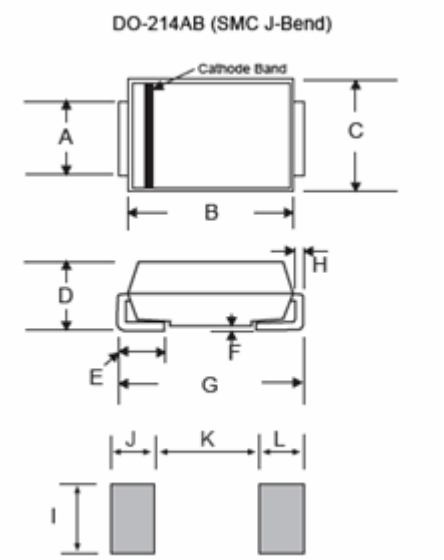


Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only



Dimensions



Dimension	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.114	0.126	2.900	3.200
B	0.260	0.280	6.600	7.110
C	0.220	0.245	5.590	6.220
D	0.079	0.103	2.060	2.620
E	0.030	0.060	0.760	1.520
F	-	0.008	-	0.203
G	0.305	0.320	7.750	8.130
H	0.006	0.012	0.152	0.305
I	0.129	-	3.300	-
J	0.094	-	2.400	-
K	-	0.165	-	4.200
L	0.094	-	2.400	-

Summary of Packing Options

Package Type	Description	Packing Quantity	Industry Standard
DO-214AB 	Embossed Carrier Reel Pack	500 PCS	EIA-481-1