

Features

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Available in Unidirectional and Bidirectional
- High peak pulse current at 10/1000 μ s waveform.
- Low incremental surge resistance, excellent clamping capability
- Very fast response time
- High temperature soldering guaranteed: 260 °C/10 s at terminals
- IEC61000-4-2 (ESD) $\pm$ 30kV (air), $\pm$ 30kV (contact).



Typical Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, telecommunication.

ABSOLUTE MAXIMUM RATINGS (T_A=25°C, RH=45%-75%, unless otherwise noted)

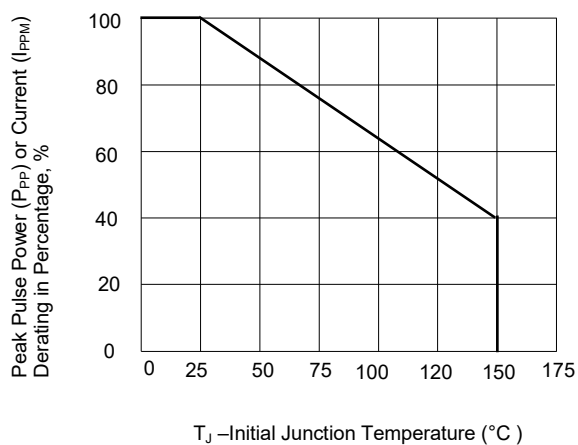
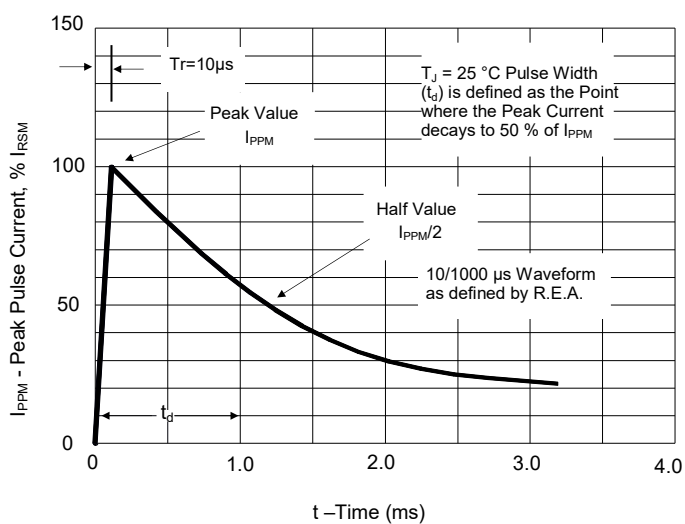
Parameter	Symbol	Value	Unit
Peak pulse current at 10/1000 μ s waveform	P _{pp}	1500	W
Peak Power Dissipation on Infinite Heat Sink at T _L =50 °C	P _D	5.0	W
Operating Temperature Range	T _J	-65 to 150	°C
Storage Temperature Range	T _{STG}	-65 to 175	°C
Typical Thermal Resistance Junction to Lead	R _{θJL}	20	°C / W
Typical Thermal Resistance Junction to Ambient	R _{θJA}	100	°C / W

Order information

Model	Marking	Package	shipping
SMB15J58V		SMB/DO-214AA	3000/Tape&Reel

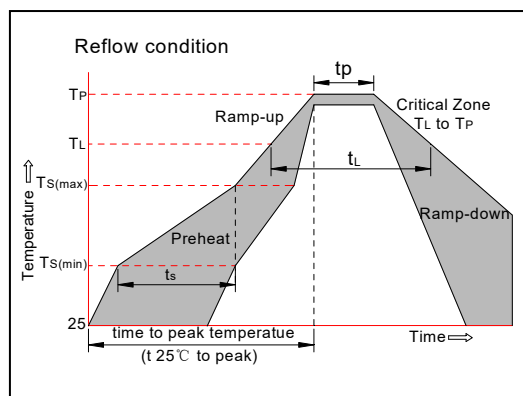
Electrical characteristic(T=25°C, unless otherwise specified)

Parameter	Symbol	Conditions	Min.	TYP.	Max.	Units
Reverse stand-off voltage	V_{RWM}				58.0	V
Reverse leakage current	I_R	$V_{RWM}=58.0V$			1.0	μA
Reveres breakdown voltage	V_{BR}	$I_T=1.0mA$	64.6		71.2	V
Clamping voltage	V_C	$I_{PP}=16.1A$ (10/1000us)			93.6	V

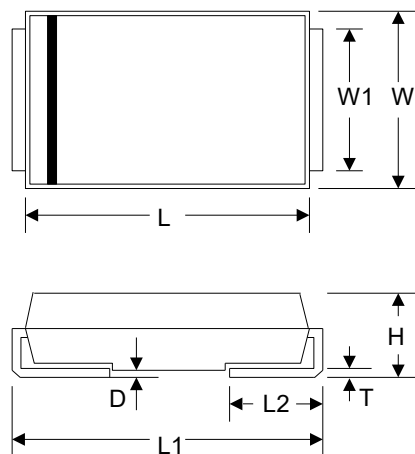
Fig.1 TVS Transients Clamping Waveform

Fig.2 Peak Pulse Power Rating Curve


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

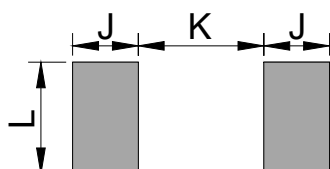


■ Outline Dimensions



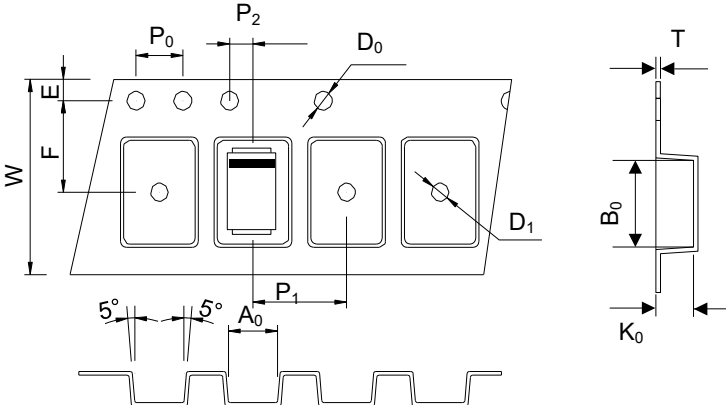
Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
L	4.060	4.750	0.160	0.187
W	3.300	3.940	0.130	0.155
W1	1.930	2.200	0.076	0.086
H	1.990	2.610	0.078	0.103
T	0.152	0.305	0.006	0.012
L1	5.210	5.590	0.205	0.220
L2	0.760	1.520	0.030	0.060
D	-	0.203	-	0.008

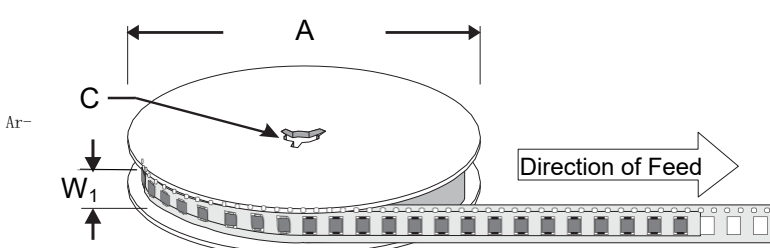
■ Suggested pad layout



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	-	2.740	-	0.107
B	2.160	-	0.085	-
C	2.160	-	0.085	-
E	2.260	-	0.089	-

Packaging Information

Tape	Symbol	Dimension (mm)
	W	12.00+0.30/-0.10
	P ₀	4.00±0.10
	P ₁	8.00±0.10
	P ₂	2.00±0.05
	D ₀	1.55±0.05
	D ₁	1.55±0.05
	E	1.75±0.1
	F	5.50±0.05
	A ₀	3.78±0.10
	B ₀	5.65±0.15
	K ₀	2.70±0.10
	T	0.30±0.05

Reel Size	13" Reel	
	A	330 mm
	C	13.2 mm
	W ₁	12.5 mm