

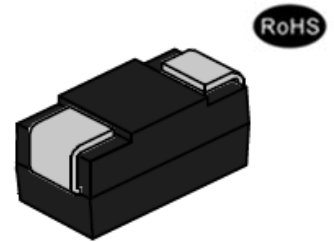


SMBJ3.3A 600W Transient Voltage Suppressor

Rev.2.4

FEATURES

- ✧ Planar technology.
- ✧ Halogen-free and RoHS compliant.
- ✧ Stand-off voltage: 3.3V.
- ✧ 600W peak pulse power capability at 10/1000 μ s waveform.
- ✧ Fast response time: typically less than 1.0ps from 0V to V_{BR} min.
- ✧ Meets MSL level 1, per J-STD-020, LF maximum peak of 260 $^{\circ}$ C.
- ✧ Terminal: solder plated, solderable per J-STD-002.
- ✧ Excellent clamping capability.
- ✧ IEC61000-4-2 (ESD) $\pm$ 30kV (air), $\pm$ 30kV (contact).



SMB

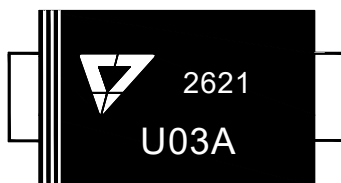


Symbol

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}$ C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage operating junction temperature range	T_{STG}/T_J	-55 to +150	$^{\circ}$ C
Steady state power dissipation at $T_L=75^{\circ}$ C	$P_{M(AV)}$	5.0	W
Peak pulse power dissipation at 10/1000 μ s waveform	P_{PP}	600	W

MARKING



U03A : Device Marking Code
2621: the 21st week, 2026

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

Part Number	V_R	$I_R@V_R$	$V_{BR}@I_T$	I_T	$V_C@I_{PP}$	$I_{PP}^{①}$	$C_o^{②}$	Marking
	V	$\mu\text{A}(\text{max})$	V(min)	mA	V(max)	A(max)	pF(typ.)	
SMBJ3.3A	3.3	100	4.1	1	8	75	4100	U03A

① Surge waveform: 10/1000 μs ② C_o is measured at: $V_{\text{bias}}=0\text{V}$, $V_{\text{RMS}}=0.1\text{V}$, $f=1\text{MHz}$ V_R : Stand-off voltage -- Maximum voltage that can be applied V_{BR} : Breakdown voltage V_C : Clamping voltage -- Peak voltage measured across the suppressor at a specified I_{PP} I_R : Reverse leakage current**ORDERING INFORMATION**

SMBJ	3.3	A
600W SMB Series	V_R Voltage	5% V_{BR} voltage tolerance

RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25°C, unless otherwise noted)

FIG.1:V- I curve characteristics
(Uni-directional)

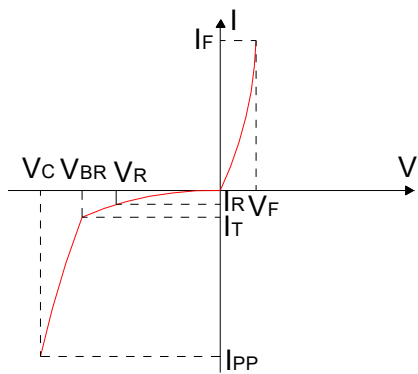


FIG.2: Pulse waveform

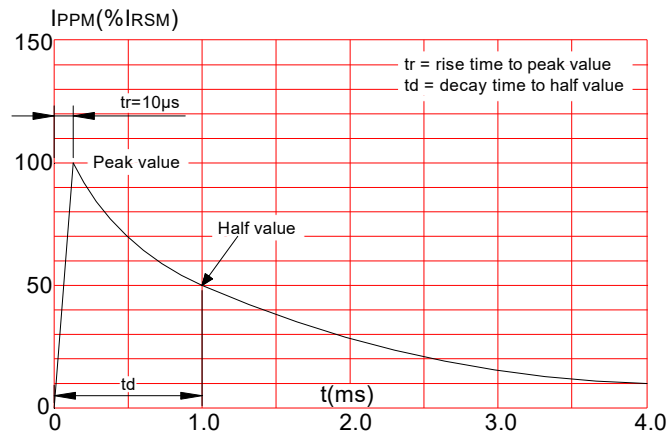
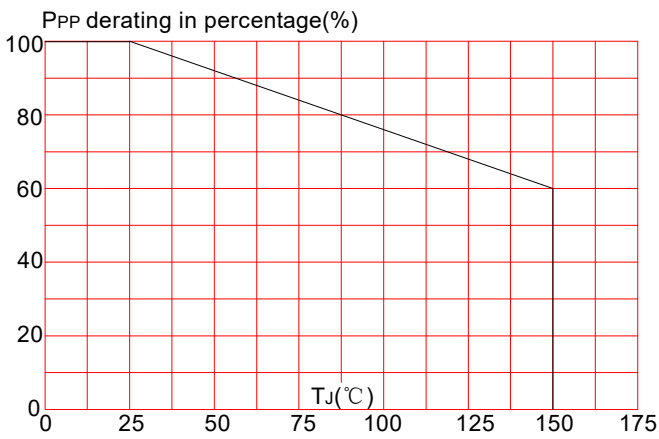
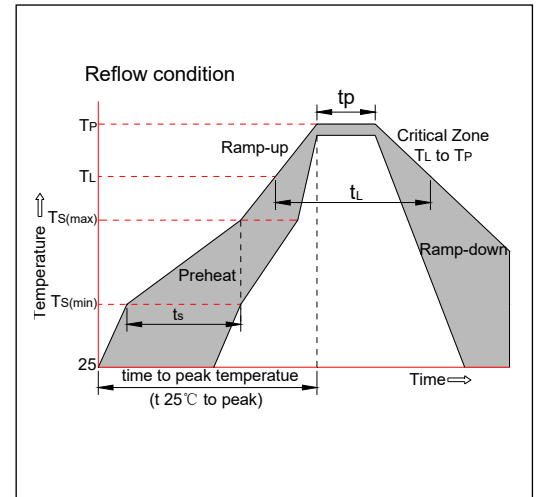


FIG.3: Pulse derating curve

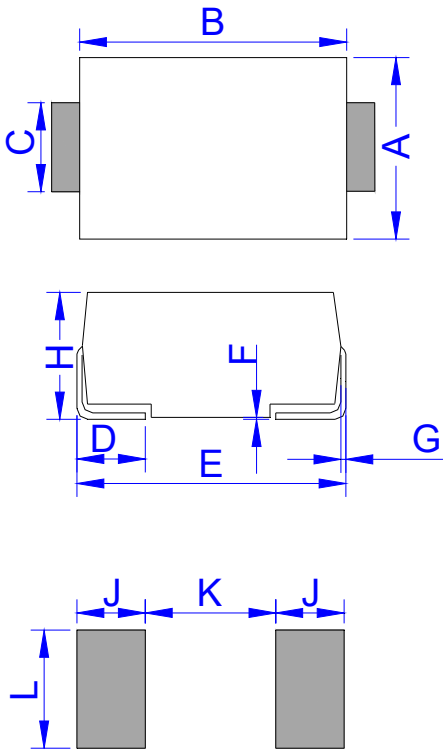


SOLDERING PARAMETERS

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) (ts)	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



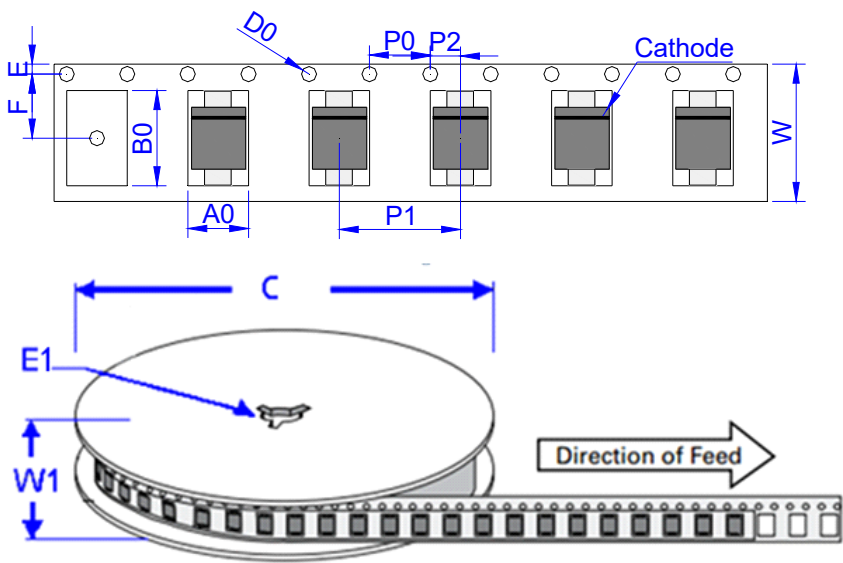
PACKAGE MECHANICAL DATA



DO-214AA (SMB)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	

TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69± 0.3	0.224 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524± 0.012
F	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
SMBJ3.3A	0.098	3,000	48,000	13 inch reel pack

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