

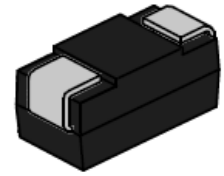


## SMAJ3.3A 400W Transient Voltage Suppressor

Rev.3

### FEATURES:

- ✧ Planar technology.
- ✧ Halogen-free and ROHS compliant.
- ✧ Stand-off voltage 3.3V.
- ✧ 400W peak pulse power capability at 10×1000μs waveform.
- ✧ Excellent clamping voltage.
- ✧ Fast response time.



SMA

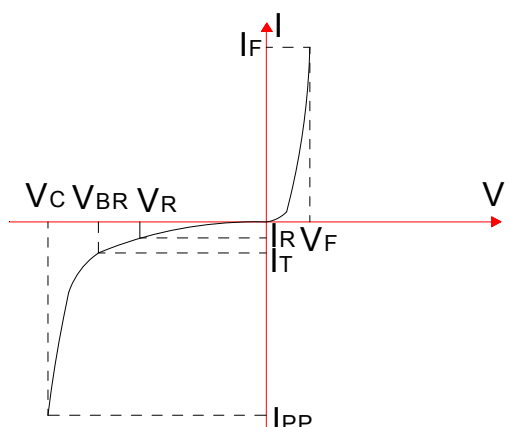


Symbol

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

Parameter	Symbol	Value	Unit
Storage and operating junction temperature range	$T_{\text{STG}}/T_{\text{J}}$	-55 to +150	$^{\circ}\text{C}$
Steady state power dissipation on infinite heat sink at $T_L=75^{\circ}\text{C}$	$P_{\text{M(AV)}}$	3.0	W
Peak pulse power dissipation on 10/1000μs waveform	$P_{\text{PP}}$	400	W

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

Symbol	Parameter	I-V curve 
$V_{\text{R}}$	Stand-off voltage	
$V_{\text{BR}}$	Breakdown voltage	
$V_{\text{C}}$	Clamping voltage	
$I_{\text{R}}$	Off-state reverse leakage current	
$I_{\text{T}}$	A specified reverse current	
$I_{\text{PP}}$	A specified peak-pulse current	
$V_{\text{F}}$	Forward voltage drop	

MARKING



U03A : Device Marking Code  
1409: In ninth week, 2014

ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Part Number	V <sub>R</sub>	I <sub>R</sub> @V <sub>R</sub>	V <sub>BR</sub> @I <sub>T</sub>	I <sub>T</sub>	V <sub>C</sub> @I <sub>PP</sub>	I <sub>PP</sub> <sup>①</sup>	C <sub>O</sub> <sup>②</sup>	Marking
	V	μA	V (min)	mA	V (max)	A (max)	pF(typ.)	
SMAJ3.3A	3.3	100	4.1	1	7.3	50	4100	U03A

① Surge waveform: 10/1000μs

② C<sub>O</sub> is measured at: V<sub>bias</sub>=0V, V<sub>RMS</sub>=1V, f=1MHz

RATINGS AND V-I CHARACTERISTICS CURVES (T<sub>A</sub>=25°C, unless otherwise noted)

FIG.1: Pulse waveform

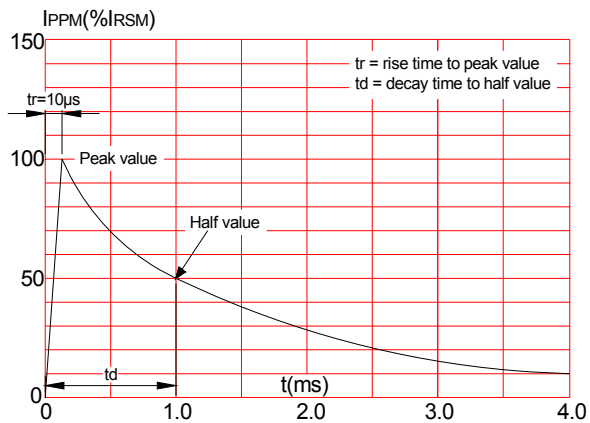
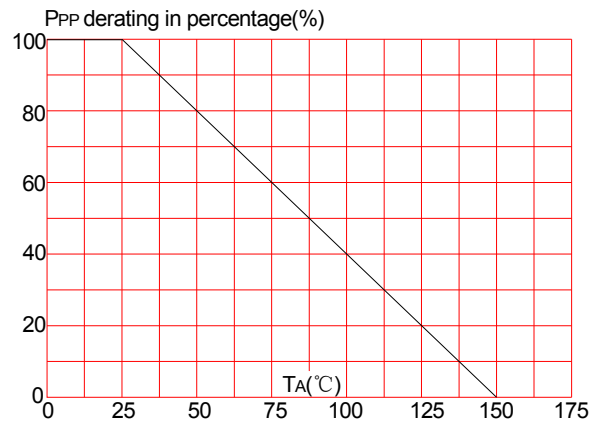
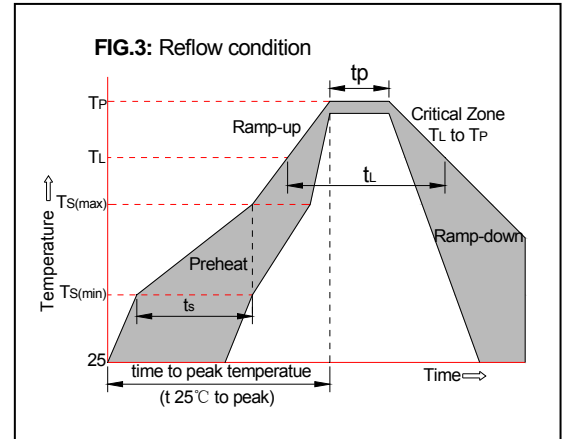


FIG.2: Pulse derating curve

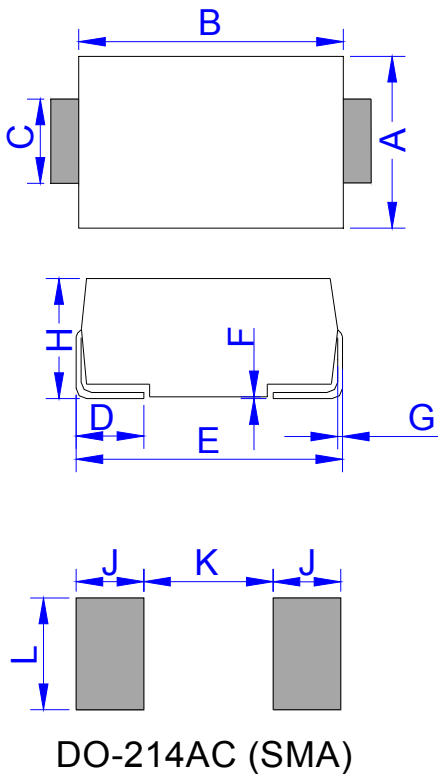


**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see FIG.3)
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 ( $t_p$ )		20-40 secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C

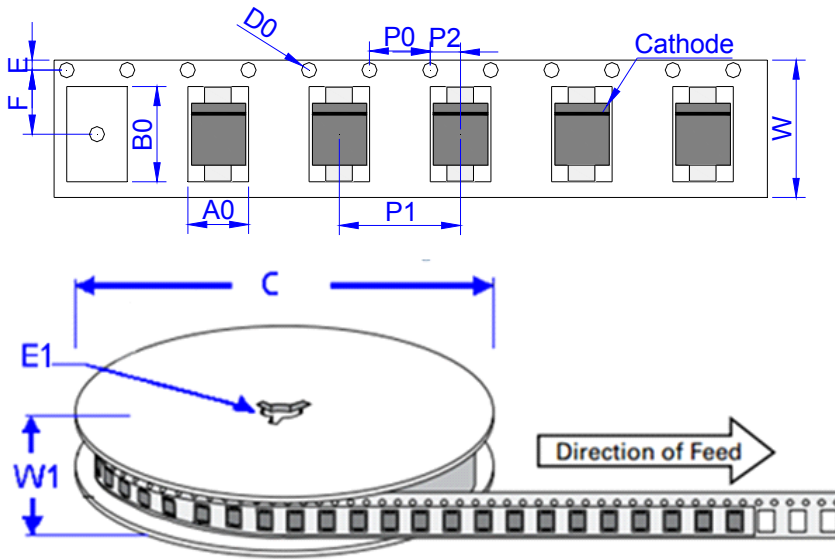


**PACKAGE MECHANICAL DATA**



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	4.15	4.65	0.163	0.183
C	1.25	1.65	0.049	0.065
D	0.95	1.52	0.037	0.060
E	4.90	5.30	0.193	0.209
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.00	2.44	0.079	0.096
J	2.00		0.079	
K		2.30		0.091
L	1.80		0.071	

TAPE AND REEL SPECIFICATION-SMA



Ref.	Dimensions	
	Millimeters	Inches
A0	2.79 ± 0.3	0.110 ± 0.012
B0	5.33 ± 0.3	0.210 ± 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	4.00 ± 0.2	0.157 ± 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

OUTLINE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	0.07	5,000	80,000	330

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