	E480232

Features

- Fully Automotive Qualified to AEC-Q101
- For Surface Mount Applications
- Excellent Clamping Capability
- High Temp Soldering:260°C / 10 Seconds at Terminals
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- ESD protection of data lines in accordance with IEC 61000-4-2, ±30kV(Air),±30kV (Contact)

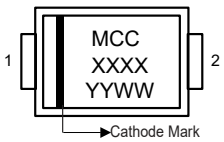
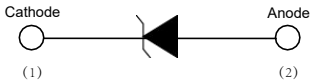
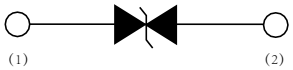
Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Surge Current with a 10/1000μs Waveform (Note 3)	I_{PPM}	See Next Table	A
Peak Pulse Power Dissipation(Note 3)	P_{PPM}	400	W
Power Dissipation on Infinite Heatsink at Ta= 25°C	P_D	1.25	W
Peak Forward Surge Current Unidirectional Only (Note 4)	I_{FSM}	40	A

Note:

1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above T_A=25 °C per Fig.4.
4. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.

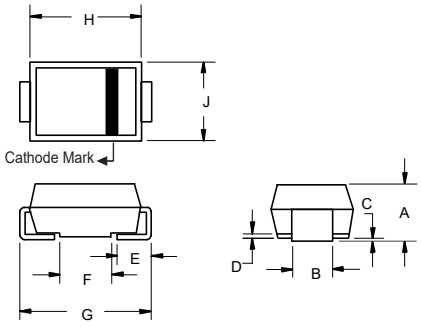
Internal Structure

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXX = Marking code YYWW = Date Code

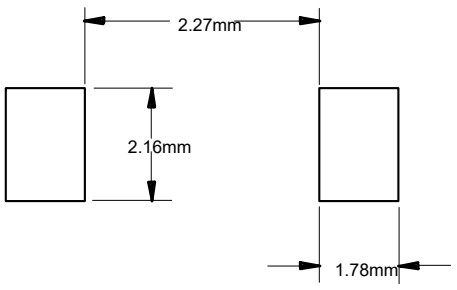
400 Watt TVS
250 to 440 Volts

SMA (DO-214AC) LEAD FRAME



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.075	0.096	1.90	2.44	
B	0.050	0.064	1.27	1.63	
C	0.002	0.008	0.051	0.203	
D	---	0.020	---	0.51	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.189	0.220	4.80	5.59	
H	0.157	0.187	4.00	4.75	
J	0.090	0.115	2.25	2.92	

SUGGESTED SOLDER PAD LAYOUT



Thermal Characteristics

Parameter	Symbol	Value	Unit
Operating Junction Temperature Range	T_J	-55 to +175	˚C
Storage Temperature Range	T_{STG}	-55 to +175	˚C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	30	˚C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	120	˚C/W
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	50	˚C/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number		Working Peak Reverse Voltage	Breakdown Voltage V_{BR} @I_T			Maximun Clamping Voltage @I_{PP}	Maximum Reverse Surge Current	Maximum Reverse Leakage @V_{RWM}	Marking Code	
(Uni)	(Bi)	V_{RWM}(V)	Min (V)	Max (V)	I_T (mA)	V_C(V)	I_{PP}(A)	I_R(μA)	Uni	Bi
SMAJ250AQ	SMAJ250CAQ	250.0	279.00	309.00	1	405.0	1.0	1	SZ	VZ
SMAJ300AQ	SMAJ300CAQ	300.0	335.00	371.00	1	486.0	0.8	1	TE	UE
SMAJ350AQ	SMAJ350CAQ	350.0	391.00	432.00	1	567.0	0.7	1	TG	UG
SMAJ400AQ	SMAJ400CAQ	400.0	447.00	494.00	1	648.0	0.6	1	TK	UK
SMAJ440AQ	SMAJ440CAQ	440.0	492.00	543.00	1	713.0	0.6	1	TM	UM

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

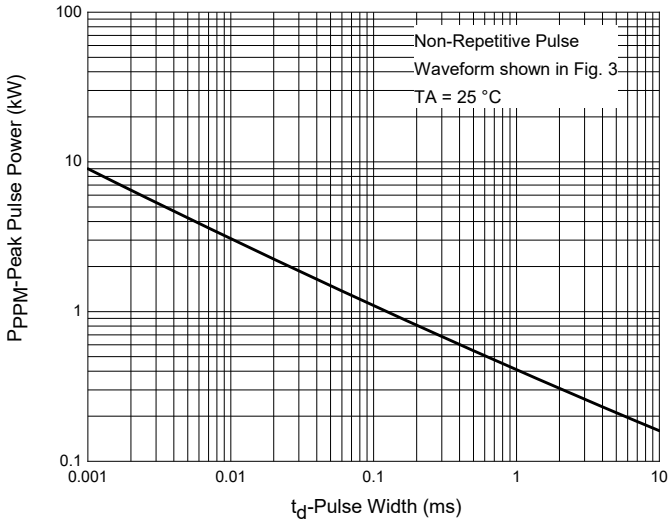


Fig. 2 - Typical Junction Capacitance

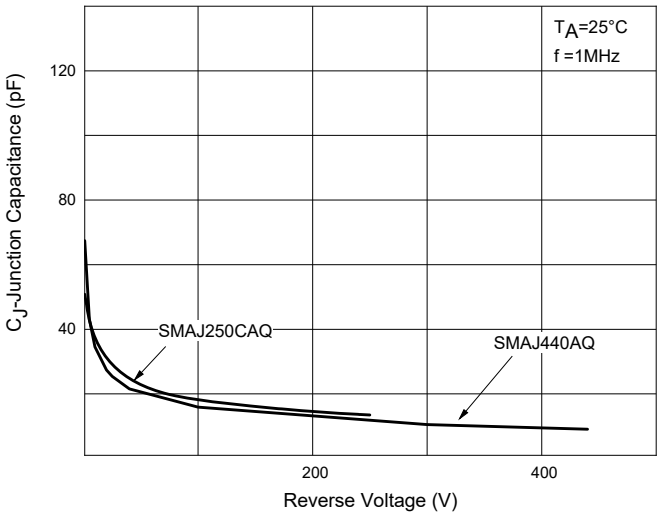


Fig. 3 - Pulse Waveform

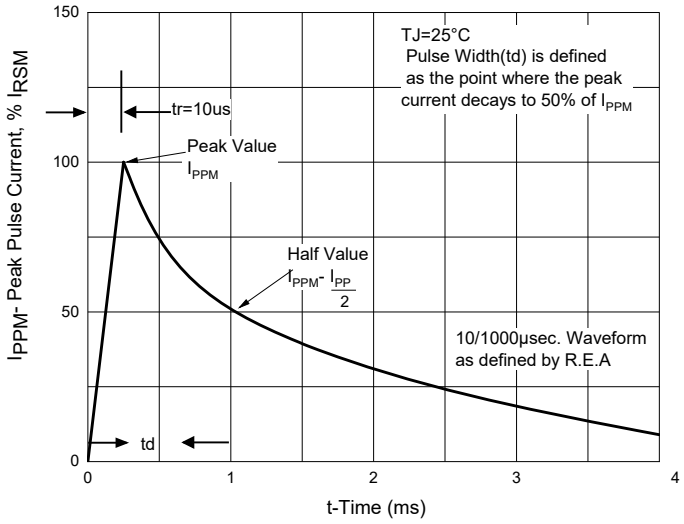


Fig. 4 - Pulse Derating Curve

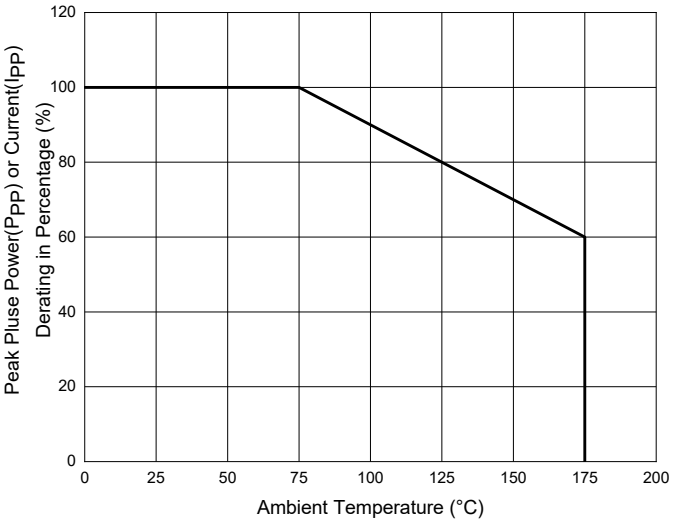


Fig. 5 - Peak Forward Voltage Drop vs Peak Forward Current

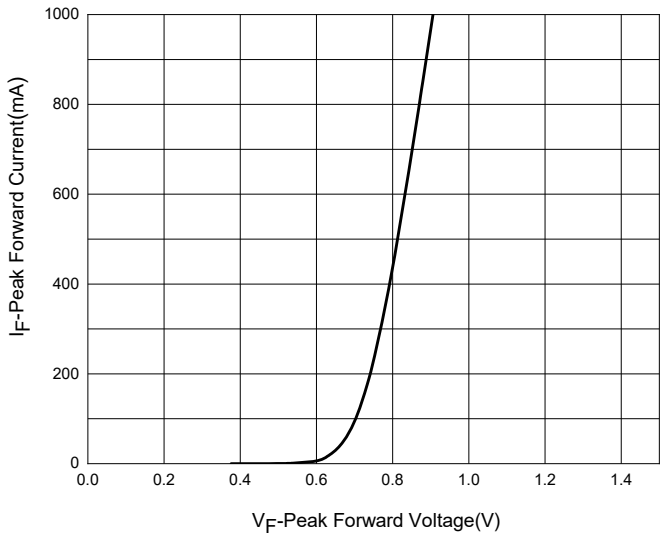
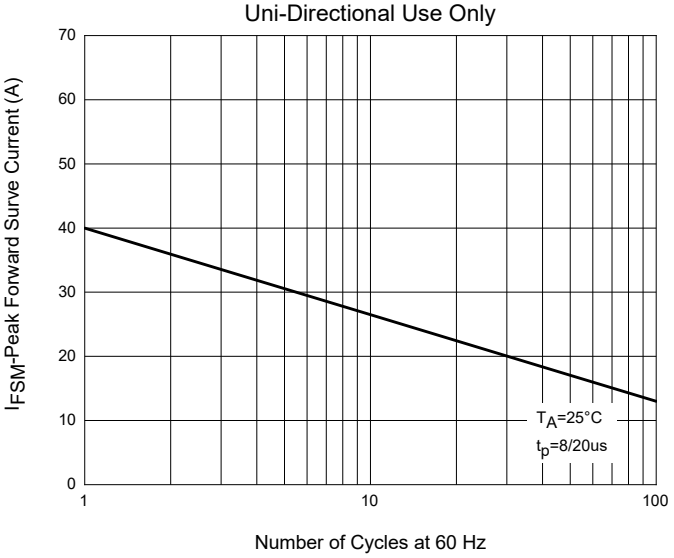


Fig. 6 - Maximum Non-Repetitive Forward Surge Current
Uni-Directional Use Only



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:5Kpcs/Reel