

FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Available in uni-directional 200 W peak pulse power capability with a 10/1000 μ s waveform
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

MECHANICAL DATA

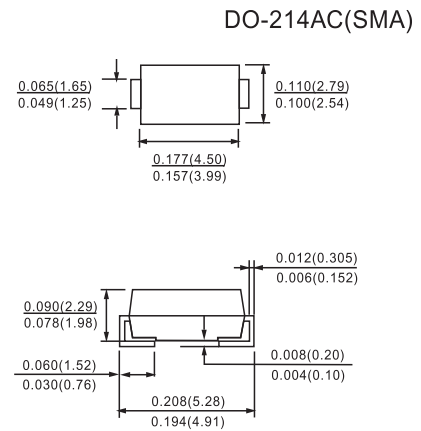
Case: DO-214AC (SMA)

Molding compound meets UL 94 V-0 flammability rating
Base P/N-M3 - halogen-free, RoHS compliant, and commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes the cathode end



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation with a 10/1000 μ s waveform (fig. 1)	$P_{PPM}^{(1)(2)}$	200	W
Peak pulse current with a 10/1000 μ s waveform (fig. 3)	$I_{PPM}^{(1)}$	See next table	A
Power dissipation at $T_A = 25^\circ\text{C}$ (fig. 6)	P_D	0.5	W
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	$^\circ\text{C}$

Notes

(1) Non-repetitive current pulse, per fig. 3 and derated above $T_A = 25^\circ\text{C}$ per fig. 2

(2) Mounted on 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pads to each terminal

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

DEVICE TYPE	DEVICE MARKING CODE	BREAKDOWN VOLTAGE V_{BR} AT $I_T^{(1)}$ (V)		TEST CURRENT I_T (mA)	STAND-OFF VOLTAGE V_{WM} (V)	MAXIMUM REVERSE LEAKAGE AT V_{WM} I_D (μ A) ⁽¹⁾	MAXIMUM PULSE SURGE CURRENT I_{PPM} (A) ⁽²⁾	MAXIMUM CLAMPING VOLTAGE AT I_{PPM} V_C (V)	MAXIMUM TEMPERATURE OF V_{BR} ($^\circ\text{C}$)
		MIN.	MAX.						
P2SMA130A	2VK	124	137	1.0	111	1.0	1.11	179	0.140
P2SMA140A	2VL	133	147	1.0	119	1.0	1.04	192	0.140
P2SMA150A	2VM	143	158	1.0	128	1.0	0.97	207	0.140
P2SMA170A	2VN	162	179	1.0	145	1.0	0.85	234	0.150
P2SMA180A	2VP	171	189	1.0	154	1.0	0.81	246	0.150
P2SMA200A	2VQ	190	210	1.0	171	1.0	0.73	274	0.150
P2SMA220A	2VR	209	231	1.0	185	1.0	0.61	328	0.150

Notes

(1) Pulse test: $t_p \leq 50$ ms

(2) Surge current waveform per fig. 3 and derate per fig. 2

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Thermal resistance, junction to ambient air	$R_{\theta JA}^{(1)}$	250	$^\circ\text{C}/\text{W}$
Thermal resistance, junction to mount	$R_{\theta JM}^{(1)}$	50	$^\circ\text{C}/\text{W}$

Note

(1) Mounted on minimum recommended pad layout

RATINGS AND CHARACTERISTIC CURVES P2SMA130A THRU P2SMA220A

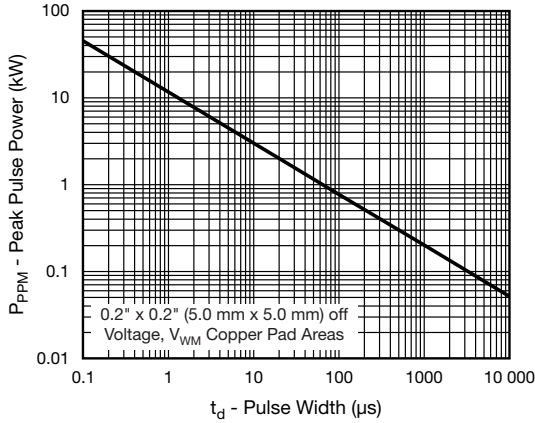


Fig. 1 - Peak Pulse Power Rating Curve

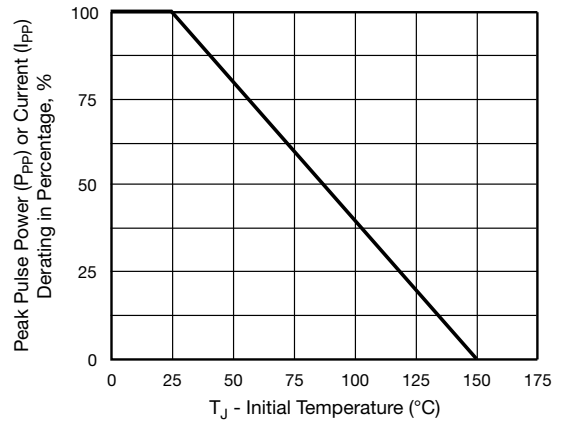


Fig. 2 - Pulse Derating Curve

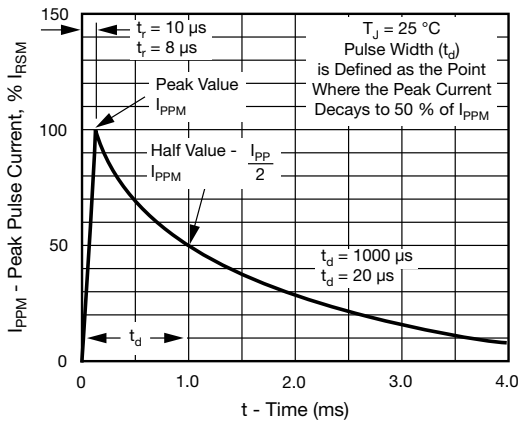


Fig. 3 - Pulse Waveform

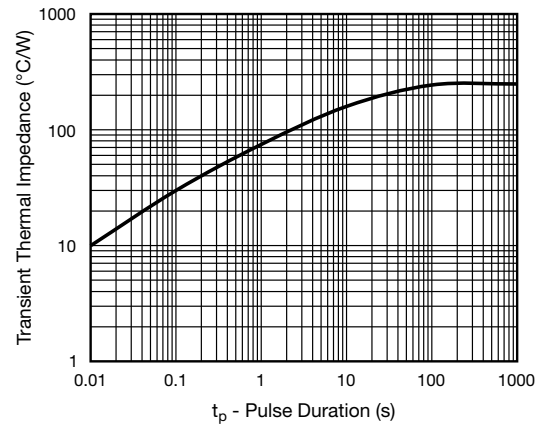


Fig. 5 - Typical Transient Thermal Impedance

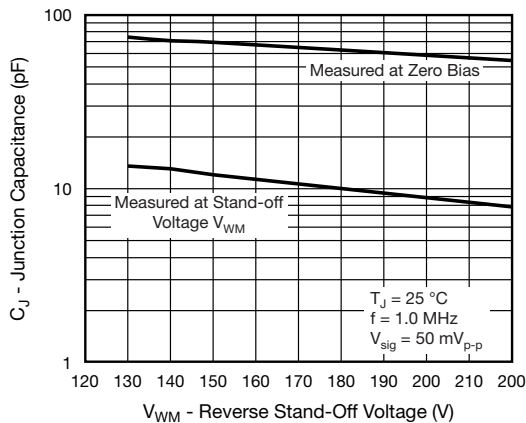


Fig. 4 - Typical Junction Capacitance

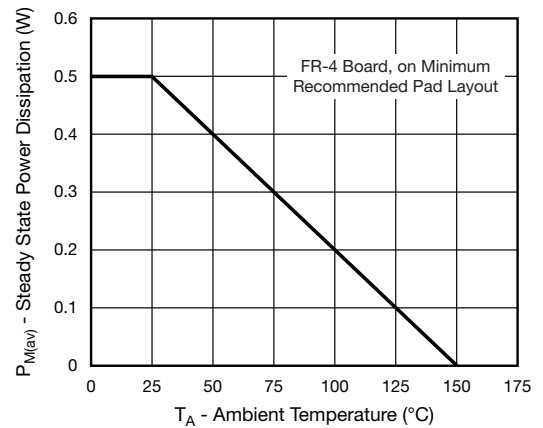


Fig. 6 - Power Derating Curve