

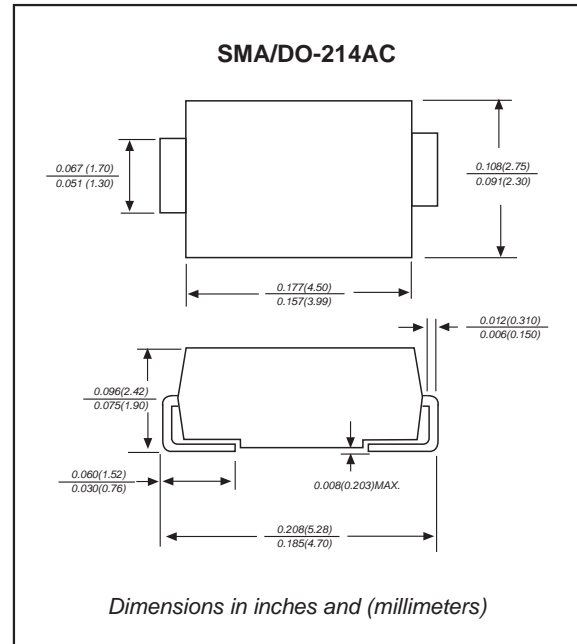
Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Compliant to Halogen-free

Mechanical data

- Case: SMA/DO-214AC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Package outline



Maximum ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_o			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			30	A
Reverse current	$V_R = V_{RRM}$ $T_a = 25^\circ C$	I_R			5.0	μA
	$V_R = V_{RRM}$ $T_a = 125^\circ C$				100	
I^2t Rating for fusing	$3ms \leq t \leq 8.3ms$	I^2t			3.7	A^2S
Thermal resistance	Junction to ambient NOTE 2	$R_{\theta JA}$		100		$^\circ C/W$
	Junction to case NOTE 2	$R_{\theta JC}$		20		$^\circ C/W$
	Junction to lead NOTE 2	$R_{\theta JL}$		25		$^\circ C/W$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		8		pF
Storage temperature		T_{STG}	-55		+150	$^\circ C$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	t_{rr}^{*5} (ns)	Operating temperature T_J , ($^\circ C$)
ES1M-A	1000	700	1000	3.2	35	-55 to +150

Note: (1) Measured with $I_F = 0.5A$, $I_R = 1A$, $I_{rr} = 0.25A$.

(2) P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.

*1 Repetitive peak reverse voltage

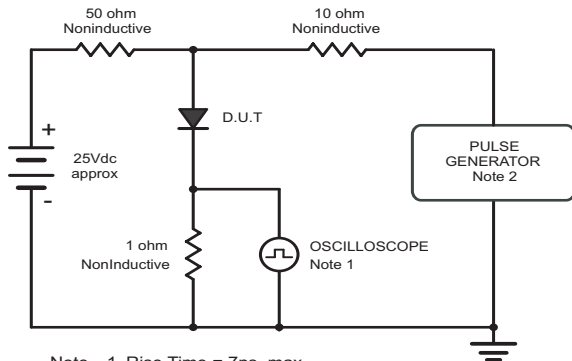
*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=1.0A$

*5 Maximum Reverse recovery time, NOTE 1

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1 megohm, 22pF.
2. Rises Time = 10ns, max.
Source Impedance = 50 ohms.

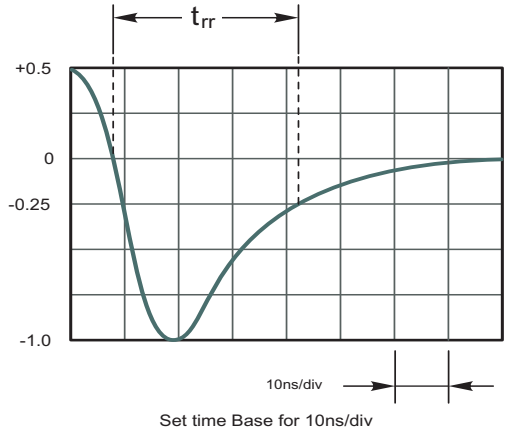


Fig.2 Maximum Average Forward Current Rating

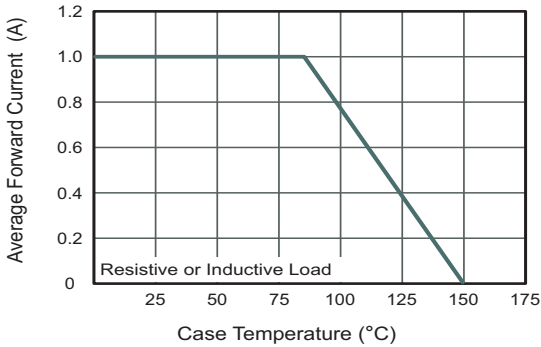


Fig.3 Typical Reverse Characteristics

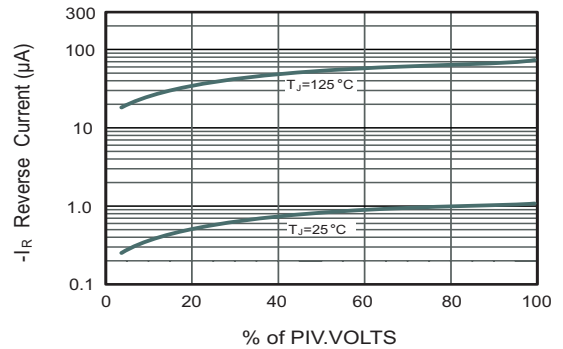


Fig.4 Typical Forward Characteristics

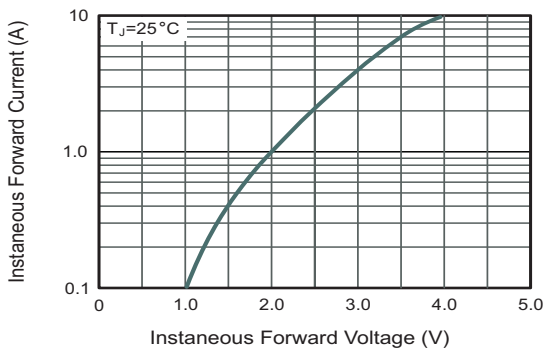


Fig.5 Typical Junction Capacitance

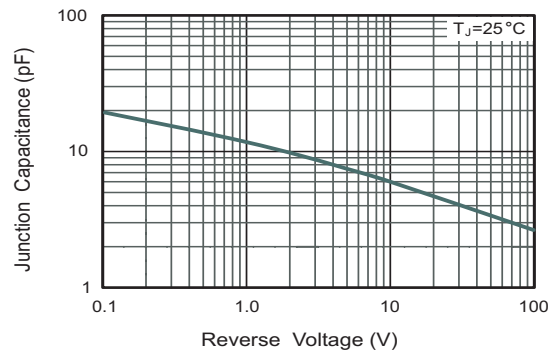
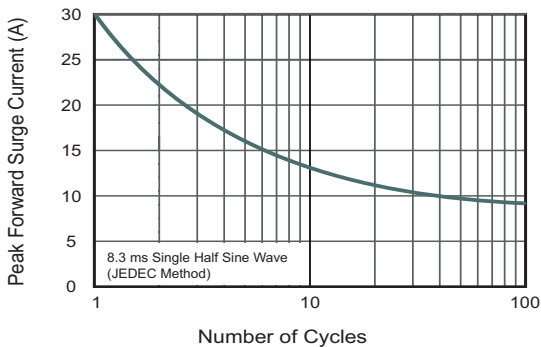




Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



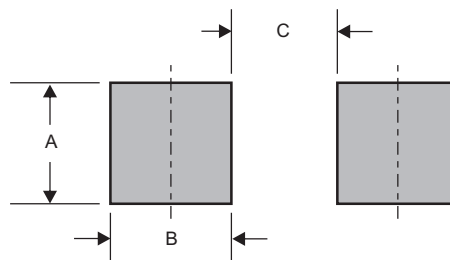
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code
ES1M-A	ES1M

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA	0.071 (1.80)	0.071 (1.80)	0.094 (2.40)