

ES1A THRU ES1M

Surface Mount Superfast Recovery Rectifier

Reverse Voltage - 50 to 1000 V

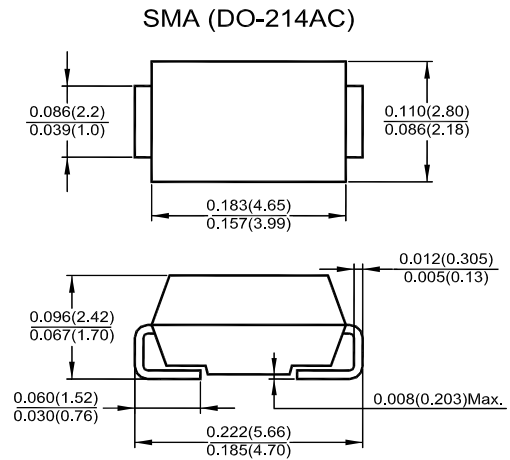
Forward Current - 1 A

Features

- Glass passivated junction
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency

Mechanical Data

- **Case:** SMA (DO-214AC), molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026 guaranteed
- **Polarity:** Color band denotes cathode end

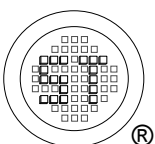


Dimensions in inches and (millimeters)

Absolute Maximum Ratings and 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	Symbols	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	ES1K	ES1M	Units
	Marking	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	ES1K	ES1M	-
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	25	70	105	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1									A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30									A
Maximum Forward Voltage at 1 A	V_F	1			1.3		1.7			V	
Maximum Reverse Current at Rated DC Blocking Voltage	I_R	$T_J = 25^\circ\text{C}$				5					μA
		$T_J = 125^\circ\text{C}$				50					
Typical Junction Capacitance at $V_R = 4\text{ V}$, $f = 1\text{ MHz}$	C_J	10									pF
Typical Reverse Recovery Time at $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	35									ns
Typical Thermal Resistance	$R_{\theta JL}$ $R_{\theta JA}$					35					$^\circ\text{C/W}$
						85					
Operating Junction and Storage Temperature Range	T_J, T_{stg}	- 55 to + 150									$^\circ\text{C}$



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FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

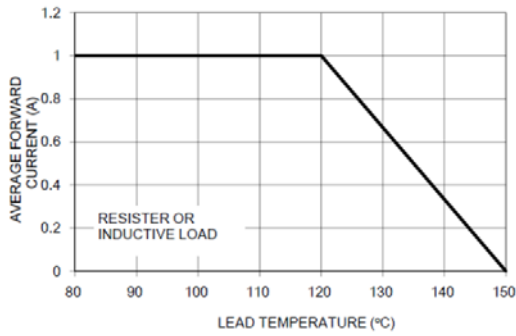


FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

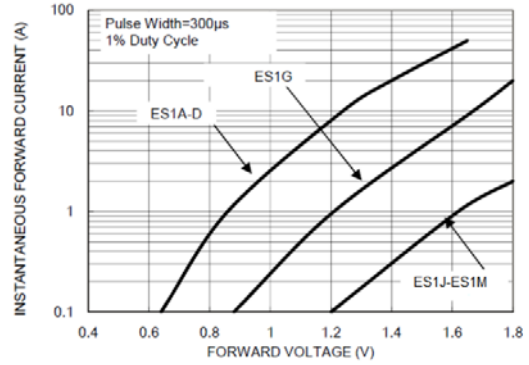


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

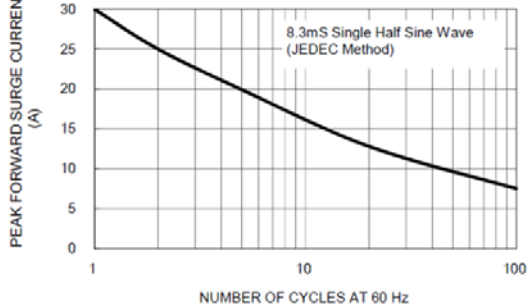


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

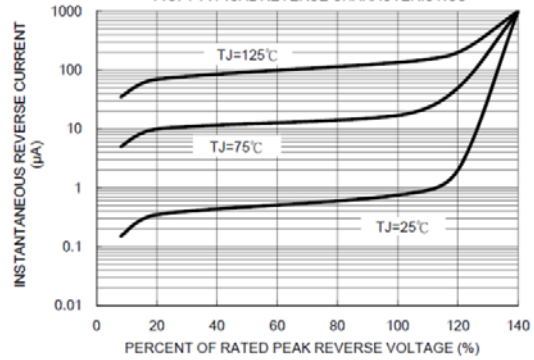
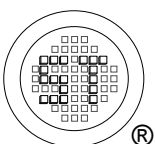
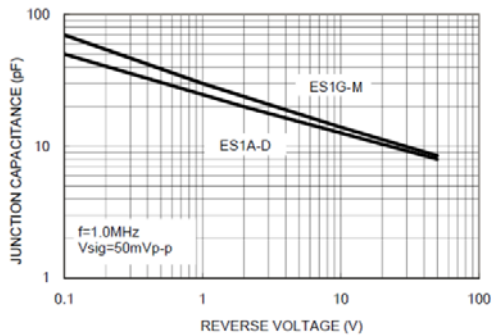


FIG. 5 TYPICAL JUNCTION CAPACITANCE



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ISO/TS 16949:2009 Certificate No. 16071309 | ISO14001:2004 Certificate No. 7116 | ISO 9001:2008 Certificate No. 50719410 | BS-OHSAS 18001:2007 Certificate No. 7116 | IECQ QC 080000 Certificate No. PRC-HSPM-1484

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