

ES1A THRU ES1M

Surface Mount Superfast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

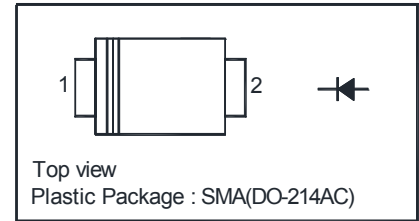
Forward Current - 1 A

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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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

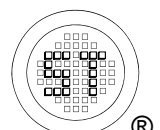
Absolute Maximum Ratings and Characteristics

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			1.25		1.7	3.2			V
Maximum Reverse Current at Rated DC Blocking Voltage	I_R	5 100					5 50			μA	
Typical Junction Capacitance at $V_R = 4 V$, $f = 1 MHz$	C_J	15							30		pF
Typical Reverse Recovery Time at $I_F = 0.5 A$, $I_R = 1 A$, $I_{rr} = 0.25 A$	t_{rr}	35									ns
Typical Thermal Resistance ¹⁾	$R_{\theta JA}$	75									°C/W
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150									°C

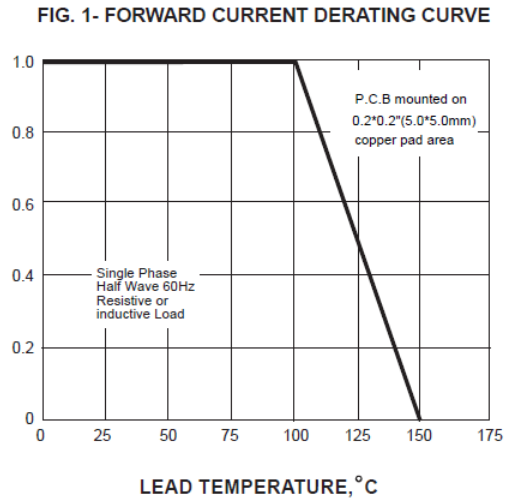
¹⁾ P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas.



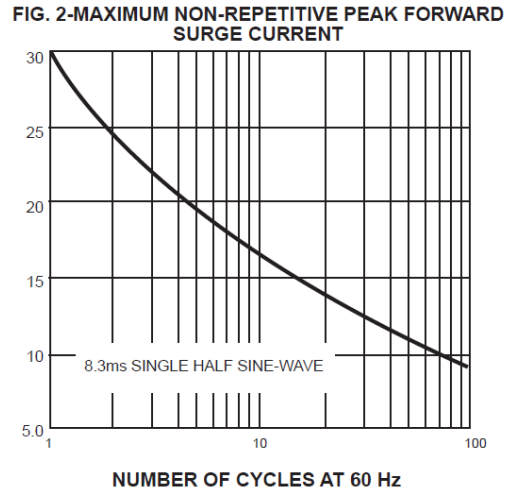
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Electrical Characteristic Curves

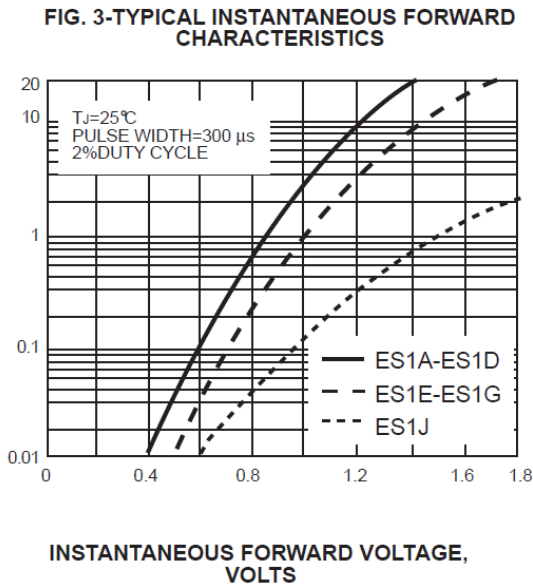
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES



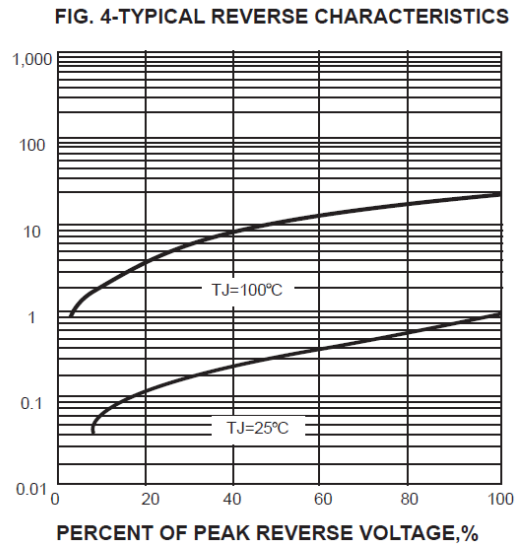
PEAK FORWARD SURGE CURRENT, AMPERES



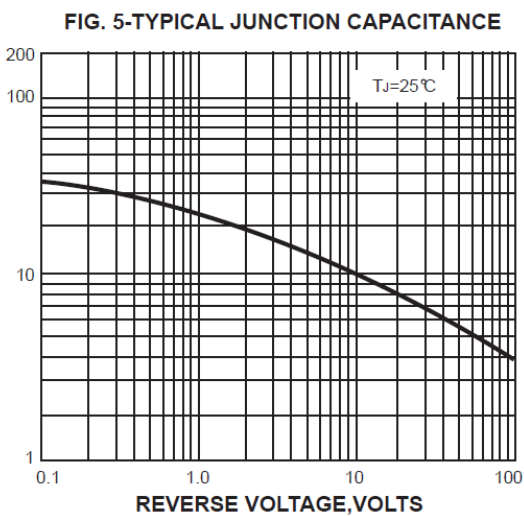
INSTANTANEOUS FORWARD CURRENT, AMPERES



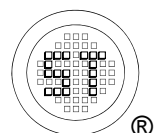
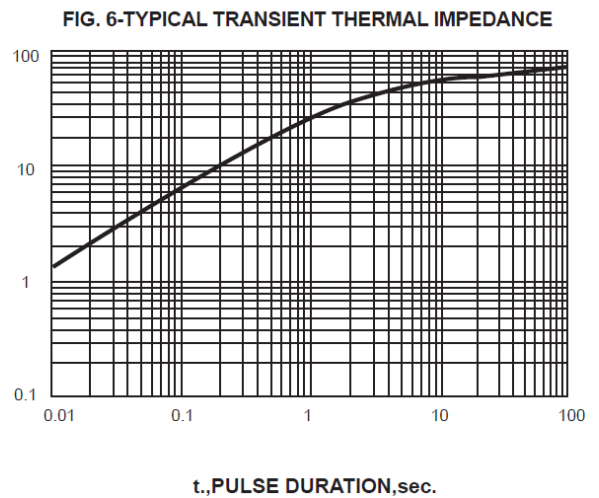
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES



JUNCTION CAPACITANCE, pF



TRANSIENT THERMAL IMPEDANCE, °C/W



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Electrical Characteristic Curves

Fig.7 Typical Reverse Characteristics

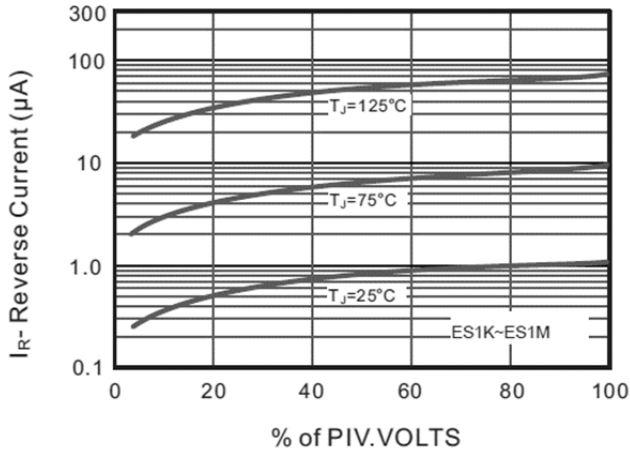


Fig.8 Typical Forward Characteristics

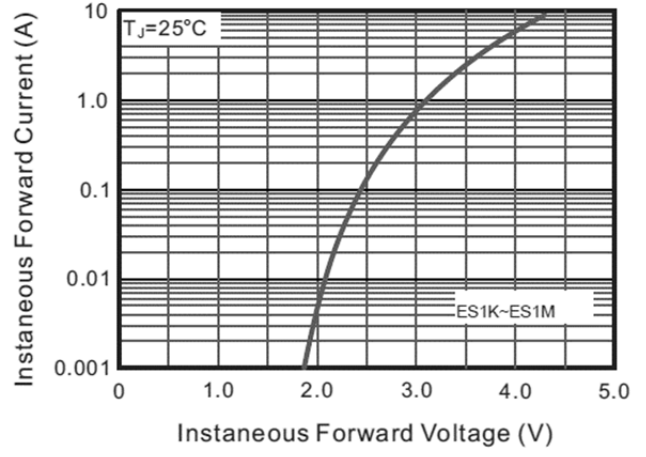
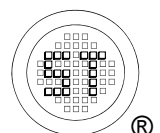
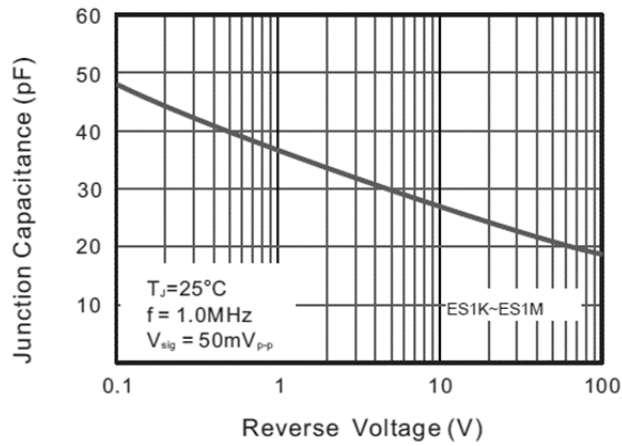


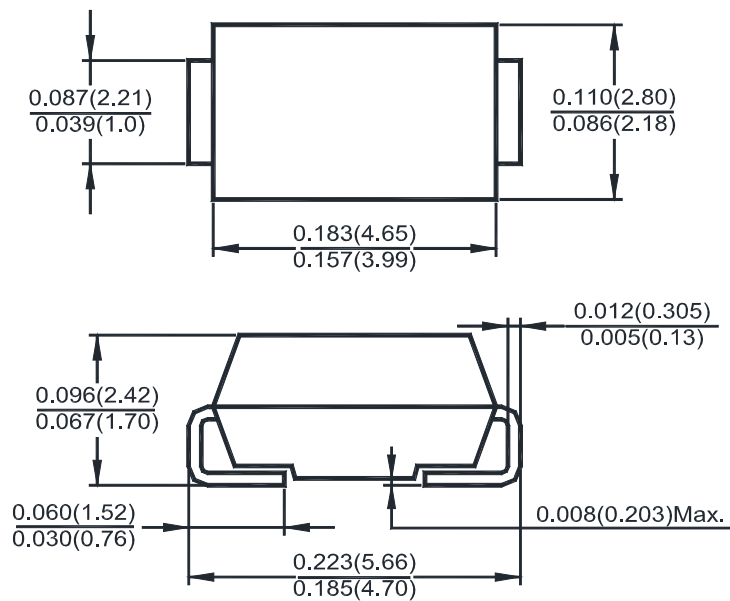
Fig.9 Typical Junction Capacitance



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Package Outline Dimensions in inches (millimeters)

SMA(DO-214AC)



Marking information

" **** " = Part No.

" III " = Cathode line

Font type: Arial

