

ES1A THRU ES1M

Surface Mount Superfast Recovery Rectifier

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

Features

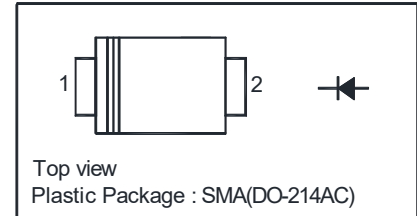
- Glass passivated junction
- For surface mounted applications
- Low profile package
- Superfast reverse recovery time

Mechanical Data

- **Case:** SMA (DO-214AC), molded plastic
- **Terminals:** Solderable per MIL-STD-750, Method 2026

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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}	35	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 T _a = 25°C T _a = 125°C	I _R	5 100						5 50		μA	
Typical Junction Capacitance at V _R = 4 V, f = 1 MHz	C _J	15						30		pF	
Maximum Reverse Recovery Time ¹⁾	t _{rr}	35									ns
Typical Thermal Resistance ²⁾	R _{θJA}	75									°C/W
Operating Junction and Storage Temperature Range	T _J , T _{stg}	- 55 to + 150									°C

¹⁾ Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $t_{rr} = 0.25\text{ A}$.

²⁾ P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.

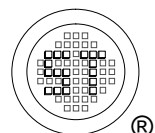
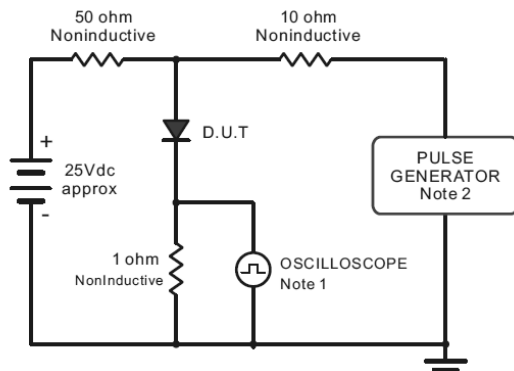


Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

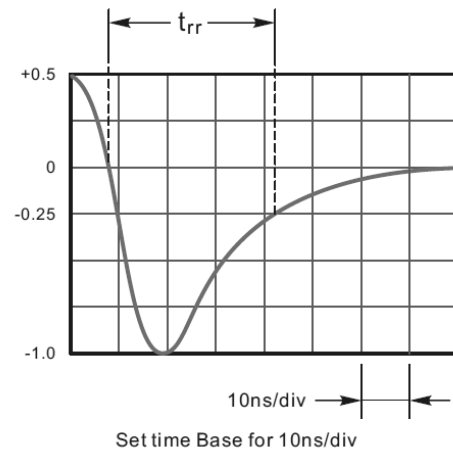


Fig.2 Maximum Average Forward Current Rating

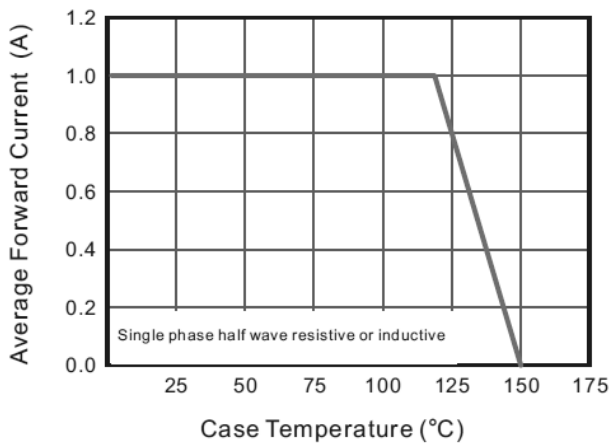


Fig.3 Typical Reverse Characteristics

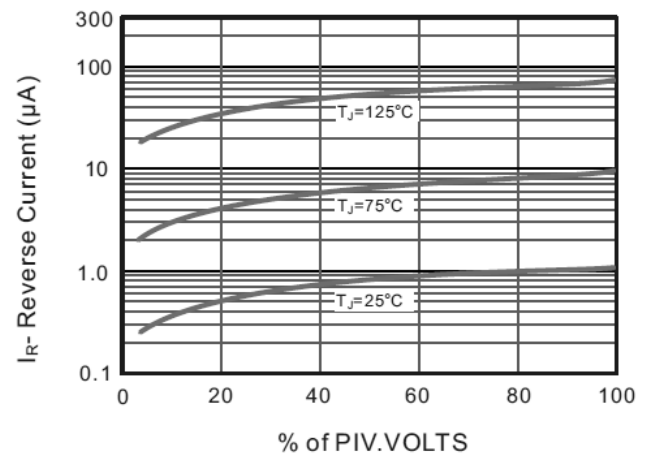


Fig.4 Typical Forward Characteristics

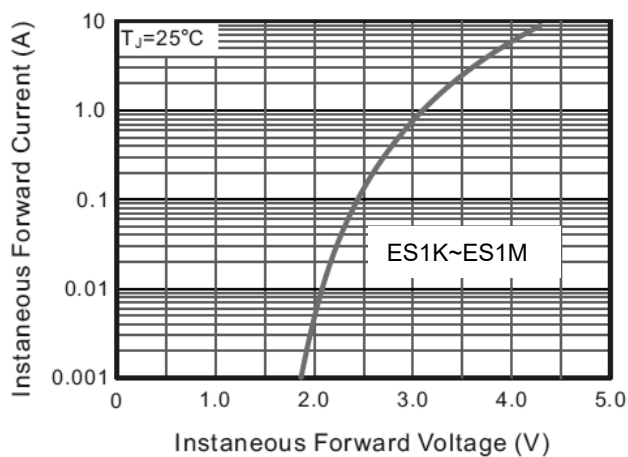


Fig.5 Typical Forward Characteristics

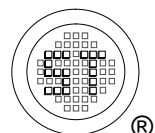
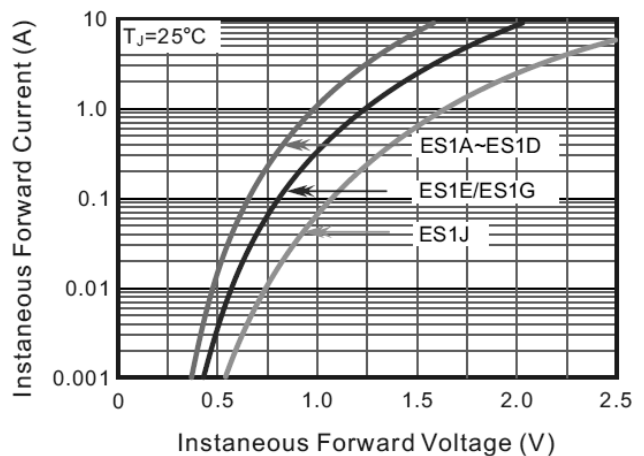


Fig.6 Typical Junction Capacitance

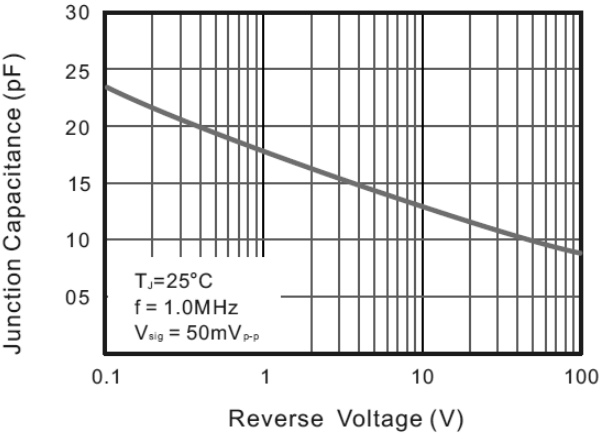
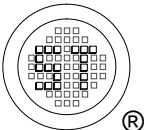
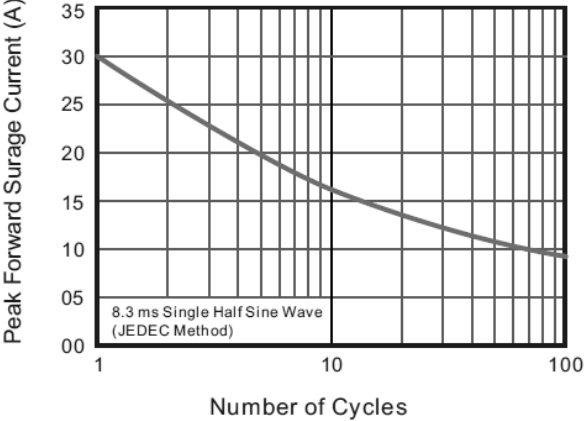


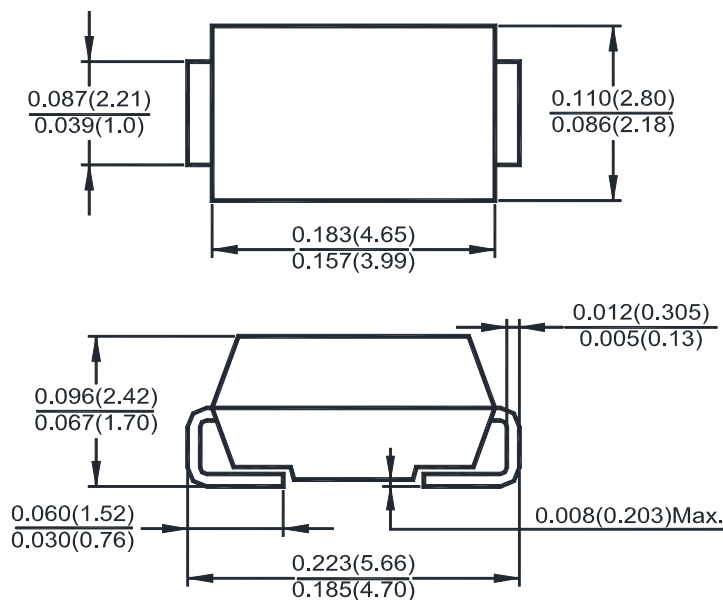
Fig.7 Maximum Non-Repetitive Peak Forward Surge Current



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Package Outline Dimensions in inches (millimeters)

SMA(DO-214AC)



Marking information

" XXXX " = Part No.

" III " = Cathode line

Font type: Arial

