

ES1A THRU ES1M

Surface Mount Super Fast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

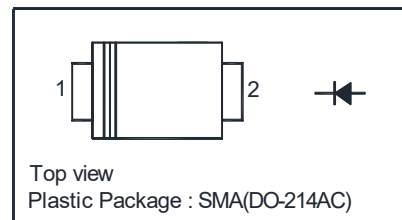
Forward Current - 1 A

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated
- Placement High forward surge current capability
- Halogen and Antimony Free(HAF), RoHS compliant

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Mechanical Data

- **Case:** JEDEC DO-214AC/SMA Molded plastic body
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity:** Polarity symbol marking on body

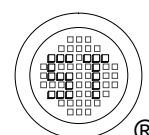
Absolute Maximum Ratings and Characteristics

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	ES1E	ES1G	ES1J	ES1K	ES1M	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	300	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	105	210	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	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 _J = 25°C T _J = 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 at I _F = 0.5 A, I _R = 1 A, I _{rr} = 0.25 A	t _{rr}	35								ns
Typical Thermal Resistance ¹⁾	R _{θJA}	75								°C/W
Operating Junction Temperature Range	T _j	- 55 to + 150								°C
Storage Temperature Range	T _{stg}	- 55 to + 150								°C

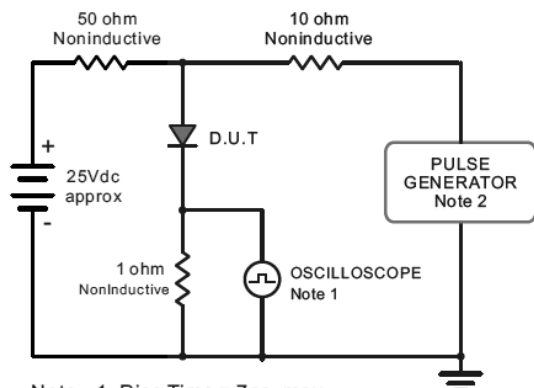
¹⁾ P.C.B. mounted with 1.0" x 1.0" (2.54 x 2.54 cm) copper pad areas.



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Electrical Characteristic Curves

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.

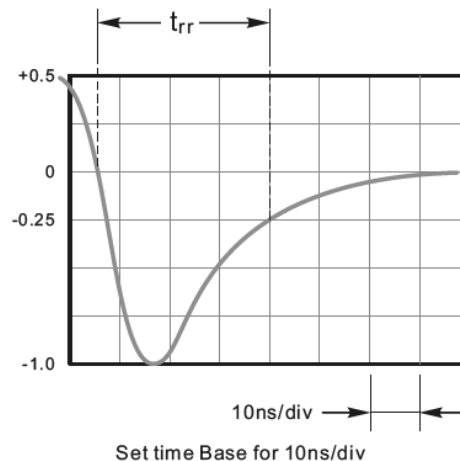


Fig.2 Maximum Average Forward Current Rating

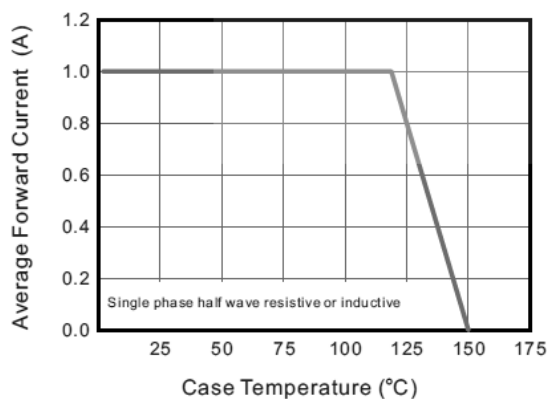


Fig.3 Typical Reverse Characteristics

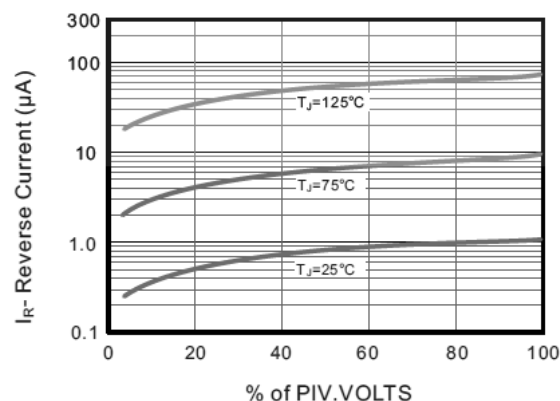


Fig.4 Typical Forward Characteristics

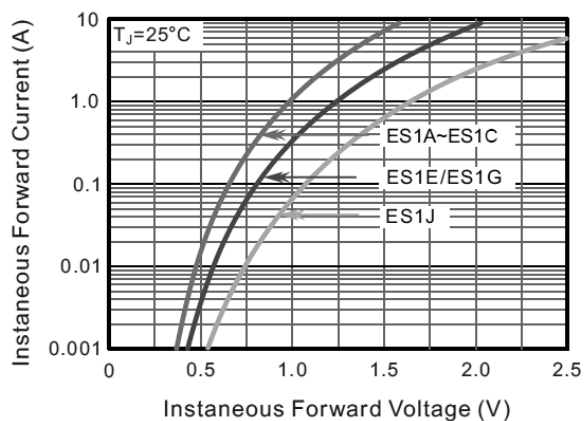
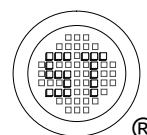
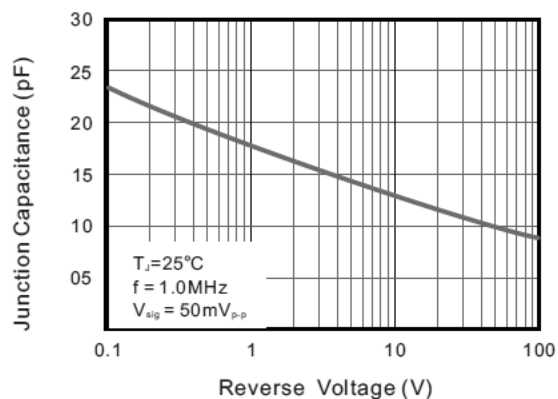
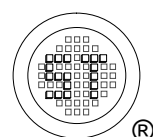
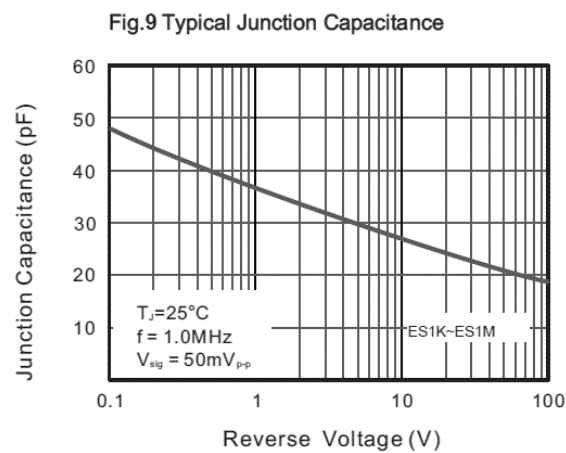
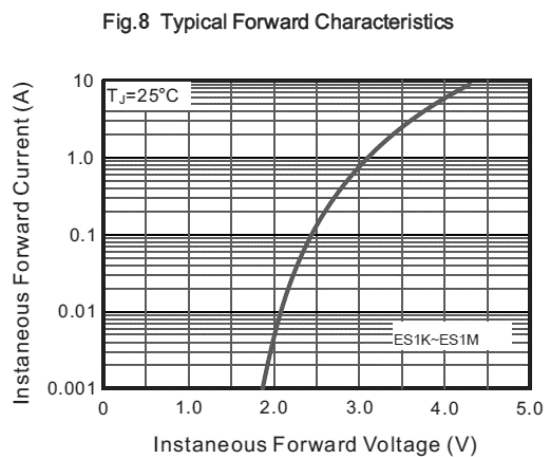
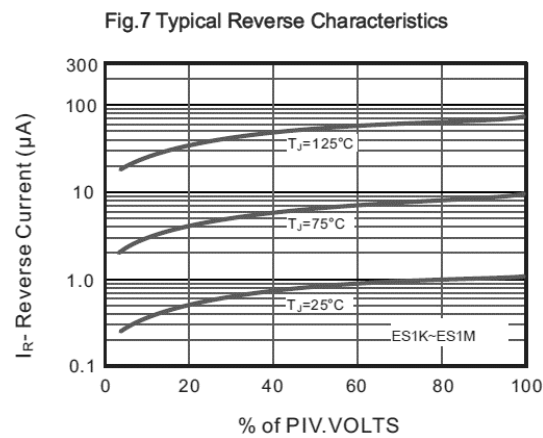
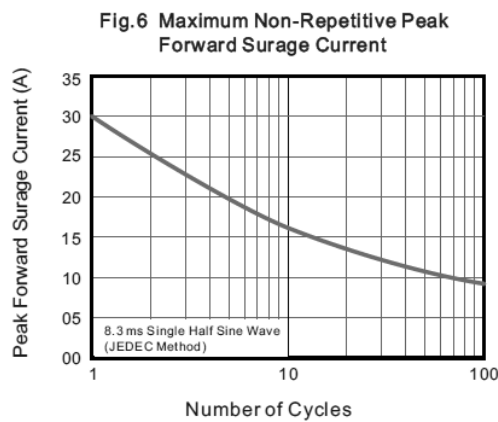


Fig.5 Typical Junction Capacitance



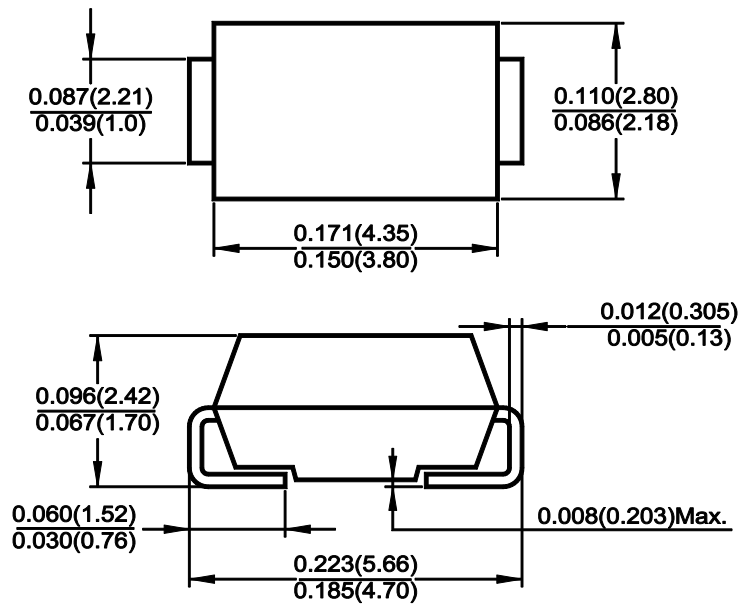
Electrical Characteristic Curves



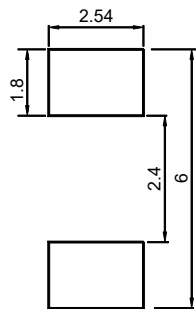
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Package Outline Dimensions in inches (millimeters)

SMA(DO-214AC)



Recommended Soldering Footprint



Marking information

" ES1* " = Part No.

Type	Marking	Type	Marking	Type	Marking	Type	Marking
ES1A	ES1A	ES1C	ES1C	ES1G	ES1G	ES1K	ES1K
ES1B	ES1B	ES1E	ES1E	ES1J	ES1J	ES1M	ES1M

" III " = Cathode line

Font type: Arial



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