

ES1A-AU ~ ES1J-AU Series

Surface Mount Super Fast Rectifier

Voltage

50~600 V

Current

1 A

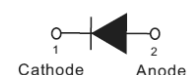
Features

- For surface mounted applications in order to optimize board space
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Standard packaging: 12mm tape (EIA-481)
- Approx. Weight : 0.0679 grams

SMA



Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	ES1A-AU	ES1B-AU	ES1C-AU	ES1D-AU	ES1E-AU	ES1G-AU	ES1J-AU	UNIT
Maximum Recurrent Peak Reverse Voltage		V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage		V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage		V _R	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at T _L =120 °C		I _{F(AV)}	1							A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load		I _{FSM}	30							A
Forward Voltage at 1A		V _F	0.95				1.25		1.7	V
Reverse Current	T _J =25 °C	I _R	1							uA
	T _J =100 °C		150							
Typical Junction Capacitance Measured at 1 MHz And Applied V _R = 4V		C _J	7							pF
Reverse Recovery Time ^(Note 1)		T _{RR}	35							ns
Typical Thermal Resistance ^(Note 2)		R _{θJL}	35							°C/W
Operating Junction Temperature Range		T _J	-55~150							°C
Storage Temperature Range		T _{STG}	-55~150							°C

NOTES :

1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1A, I_{rr}=0.25A.
2. 8.0mm²(0.013mm thick) land areas.

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TYPICAL CHARACTERISTIC CURVES

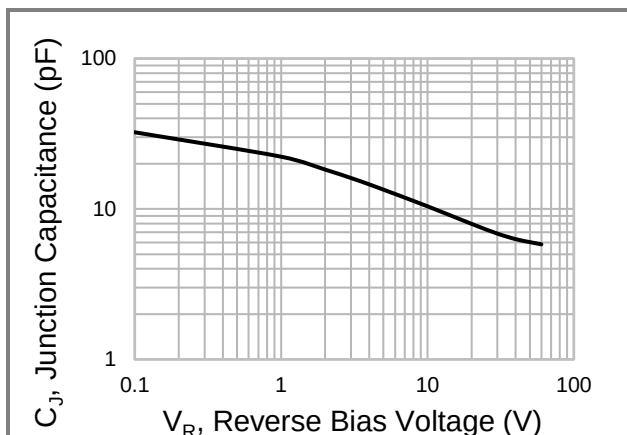


Fig.1 Typical Junction Capacitance

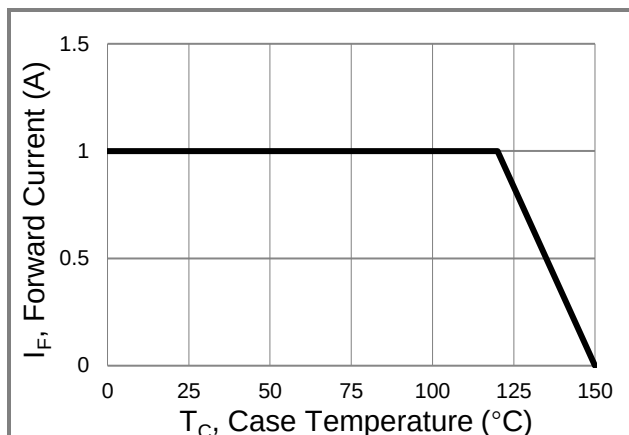


Fig.2 Forward Current Derating Curve

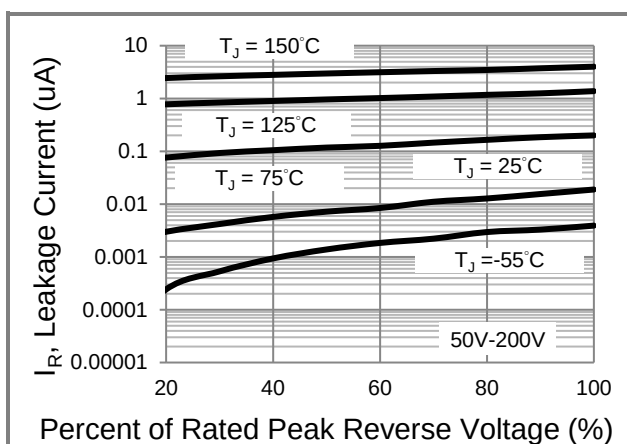


Fig.3 Typical Reverse Characteristics

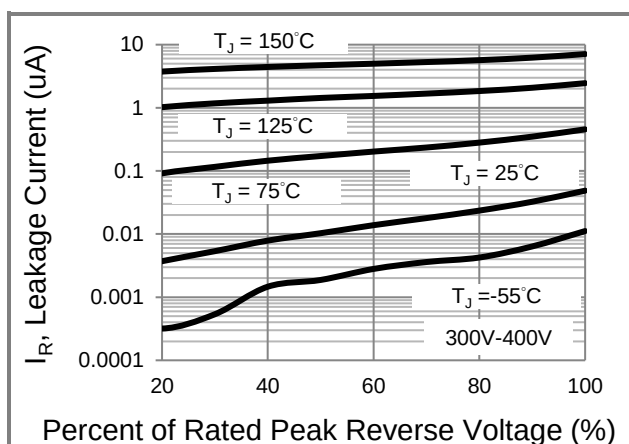


Fig.4 Typical Reverse Characteristics

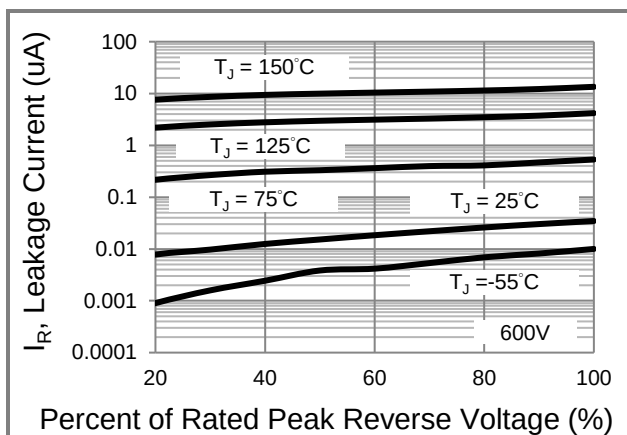


Fig.5 Typical Reverse Characteristics

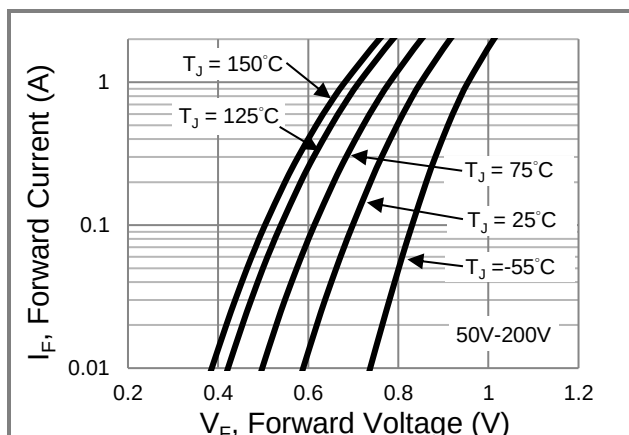


Fig.6 Typical Forward Characteristics

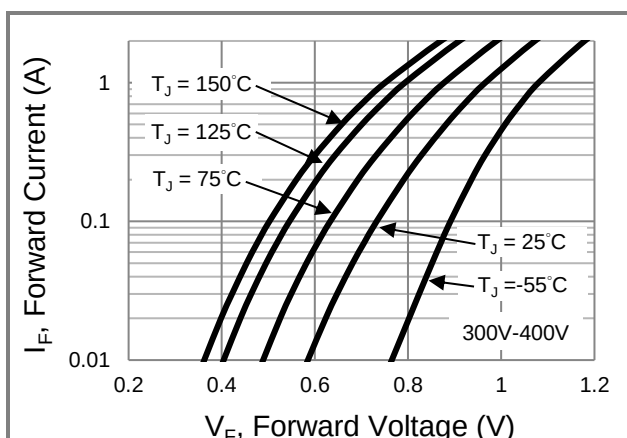


Fig.7 Typical Forward Characteristics

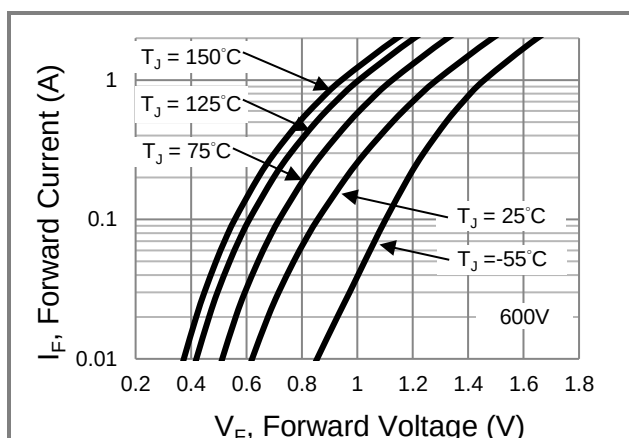
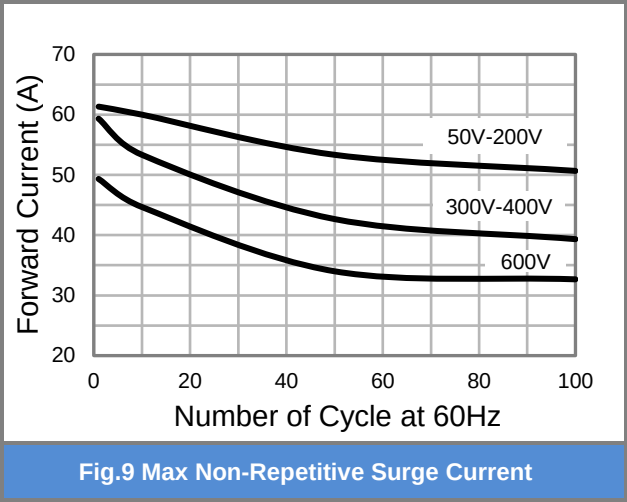


Fig.8 Typical Forward Characteristics

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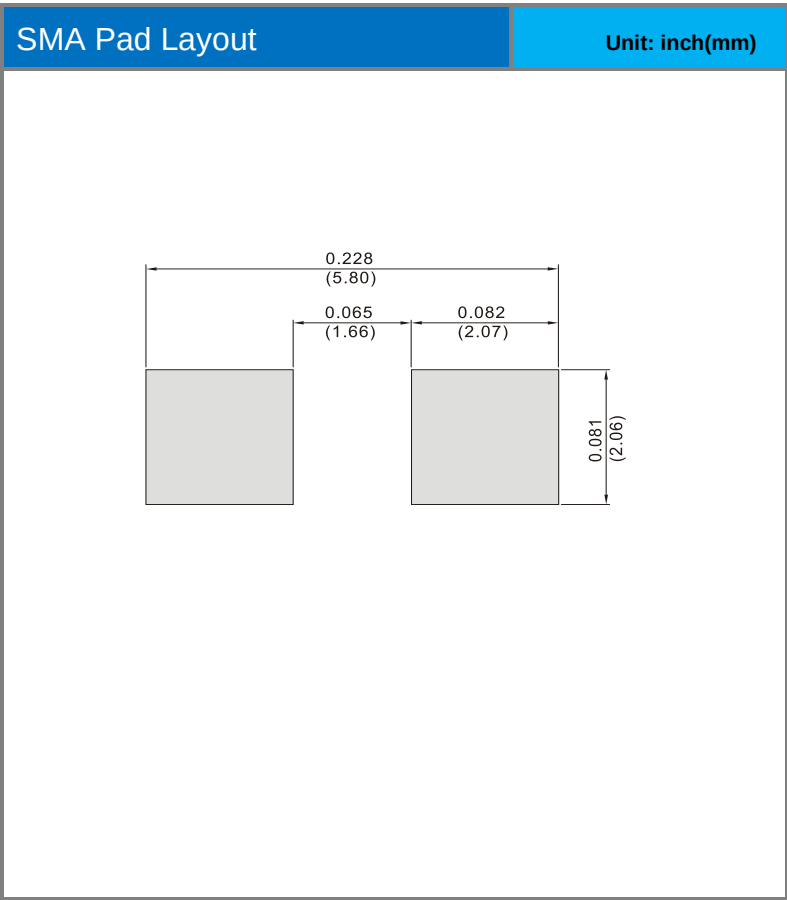
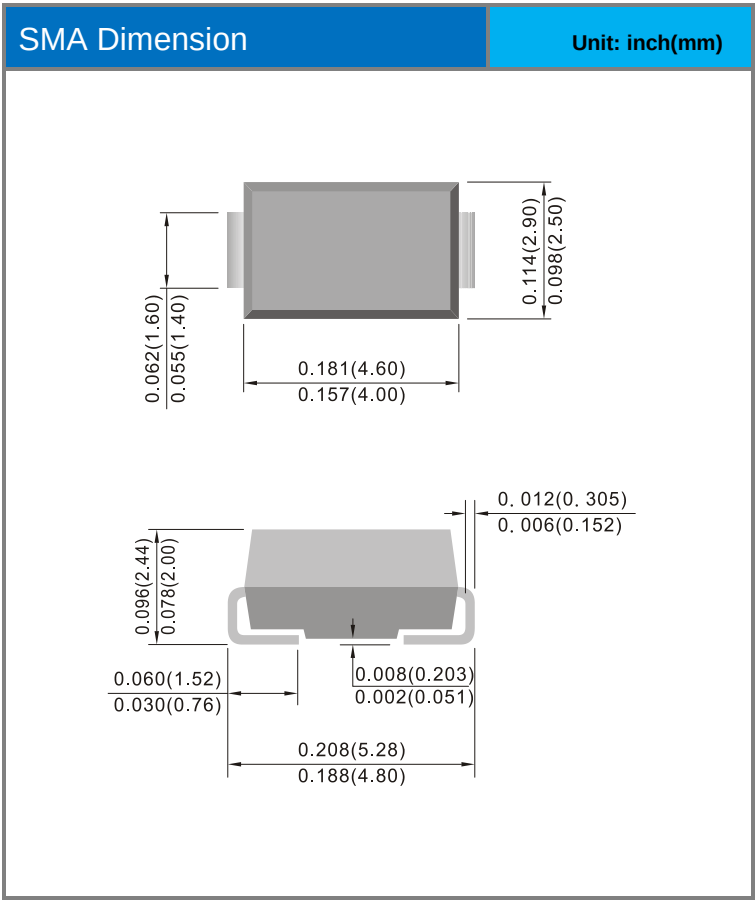


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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
ES1A-AU	SMA	1.8K pcs / 7" reel	ES1A
ES1B-AU	SMA	1.8K pcs / 7" reel	ES1B
ES1C-AU	SMA	1.8K pcs / 7" reel	ES1C
ES1D-AU	SMA	1.8K pcs / 7" reel	ES1D
ES1E-AU	SMA	1.8K pcs / 7" reel	ES1E
ES1G-AU	SMA	1.8K pcs / 7" reel	ES1G
ES1J-AU	SMA	1.8K pcs / 7" reel	ES1J

Packaging Information & Mounting Pad Layout



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