



ES1JF-LE

SURFACE MOUNT SUPERFAST RECTIFIER

Voltage

600 V

Current

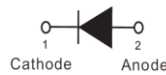
1 A

Features

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Superfast recovery times for high efficiency
- Glass Passivated Chip Junction
- Ultra Thin Profile Package for Space Constrained Utilization
- Package suitable for automated handling
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std..(Halogen Free)

Mechanical Data

- Case: Molded plastic, SMAF-1
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color Band denotes cathode end
- Approx. Weight: 0.00093 ounces, 0.027 grams
- Marking: ES1J



SMAF-1



Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	600	V
Maximum rms voltage	V_{RMS}	420	V
Maximum dc blocking voltage	V_R	600	V
Maximum average forward current	$I_{F(AV)}$	1	A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30	A
Typical forward voltage at 1A	V_F	1.65	V
Maximum dc reverse current at rated dc blocking voltage	I_R	5	μA
Typical junction capacitance Measured at 1MHz and applied $V_R=4\text{V}$	C_J	10	pF
Maximum reverse recovery time	(Note 3) T_{RR}	35	ns
Typical thermal resistance	(Note 1) $R_{\theta JA}$	150	$^{\circ}\text{C/W}$
	(Note 2) $R_{\theta JC}$	18	
Operating and storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

- Note :
1. Mounted on a FR4 PCB, single-sided copper, mini pad.
 2. Mounted on a FR4 PCB, single-sided copper, with 100cm² copper pad area
 3. Reverse Recovery Test Conditions : $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{RR}=0.25\text{A}$



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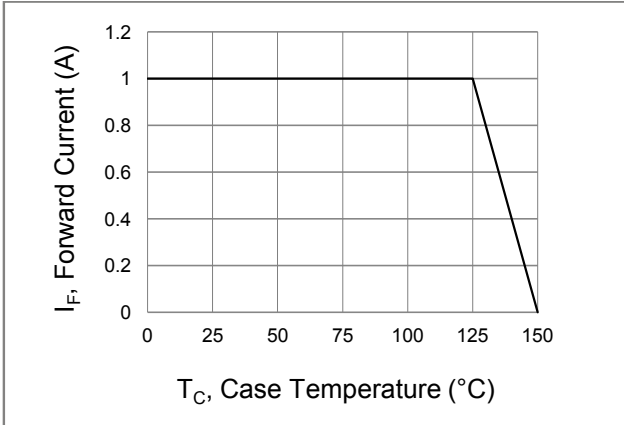


Fig.1 Forward Current Derating Curve

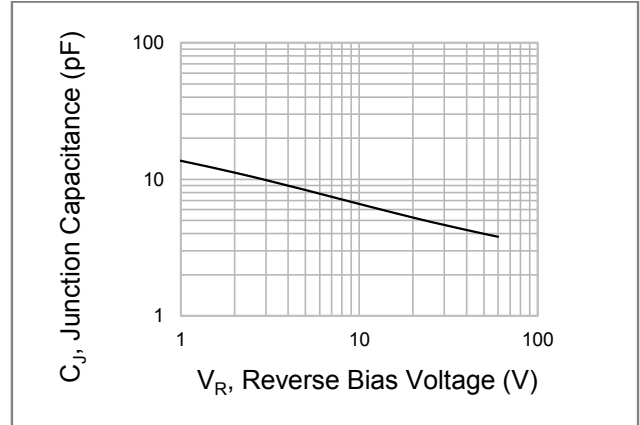


Fig.2 Typical Junction Capacitance

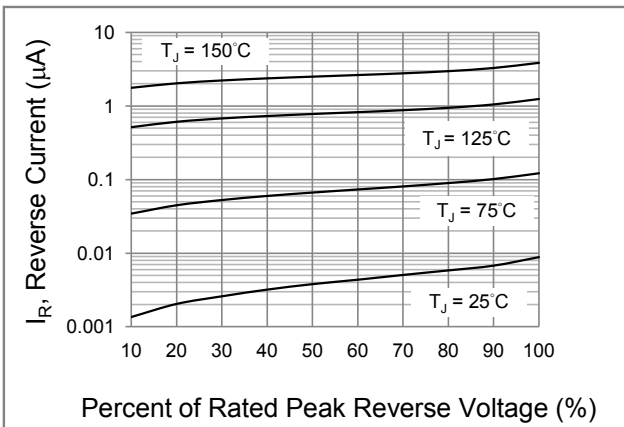


Fig.3 Typical Reverse Characteristics

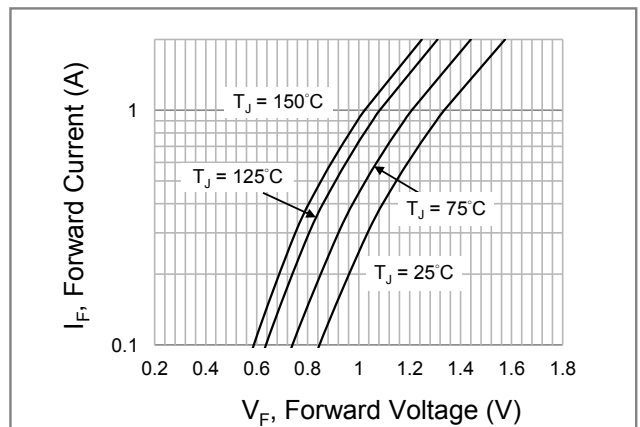
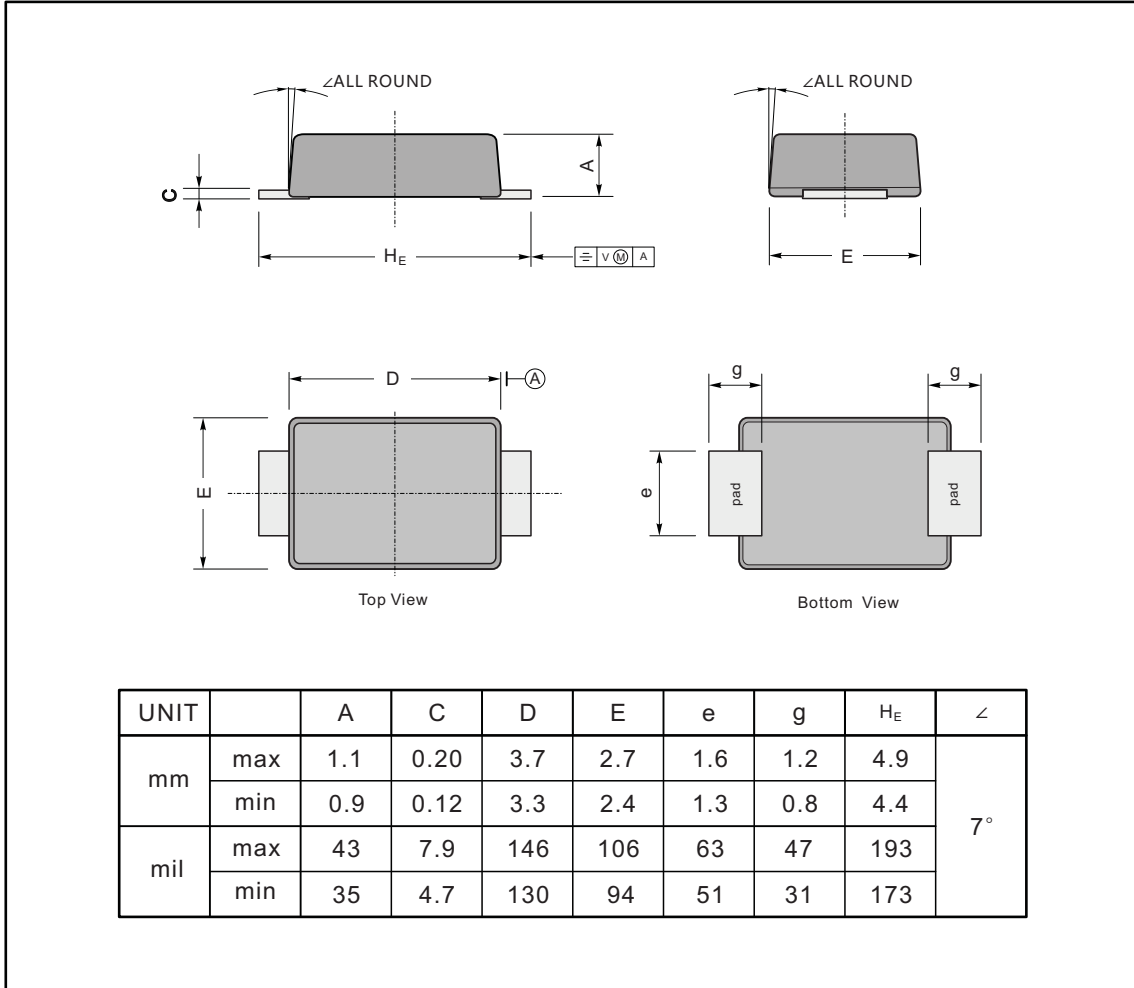


Fig.4 Typical Forward Characteristics

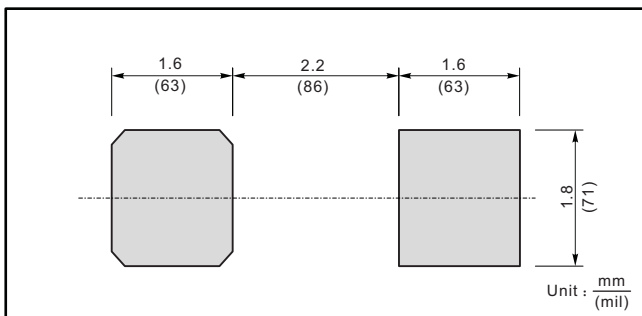


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Package Outline



Pad Layout





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