

# Super-Fast Recovery Rectifier

ES2E - ES2G

## Features

- Low forward voltage drop
- High forward surge current capability
- Low-profile SMD ideal for automated manufacturing
- RoHS compliant with Halogen-free



## Mechanical Data

- Case: SMB molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated; solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end

## Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	ES2E	ES2G	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	300	400	V
RMS Reverse Voltage	V <sub>RMS</sub>	210	280	V
DC Blocking Voltage	V <sub>DC</sub>	300	400	V
Maximum Average Forward Output Current	I <sub>F_AV</sub>	2.0		A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I <sub>FSM</sub>	50		A

## Thermal Characteristics

Parameter	Symbol	ES2E	ES2G	Unit
Typical Thermal Resistance *1	R <sub>θJA</sub>	60		°C/W
	R <sub>θJC</sub>	23		
	R <sub>θJL</sub>	25		
Operating Junction Temperature Range	T <sub>J</sub>	-55 ~ +150		°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150		°C

Note \*1: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1mm copper pad area

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**ES2E - ES2G**

## Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

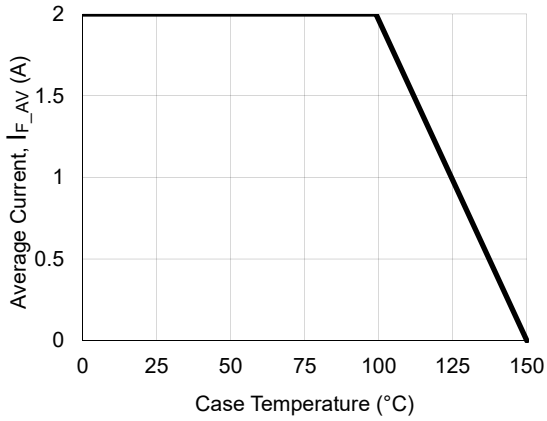
Parameter	Symbol	Test Condition	Typ.	Max.	Unit	
Maximum Instantaneous Forward Voltage	$V_F$	$I_F = 2.0\text{A}$	-	1.25	V	
Maximum Reverse Current	$I_R$	Rated	@ $T_A = 25^\circ\text{C}$	-	5.0	$\mu\text{A}$
		$V_R$	@ $T_A = 125^\circ\text{C}$	-	200	
Maximum Reverse Recovery Time	$t_{rr}$	$I_F = 0.5\text{A}$ , $I_{RM} = 1\text{A}$ , $I_{R(REC)} = 0.25\text{A}$	-	35.0	ns	

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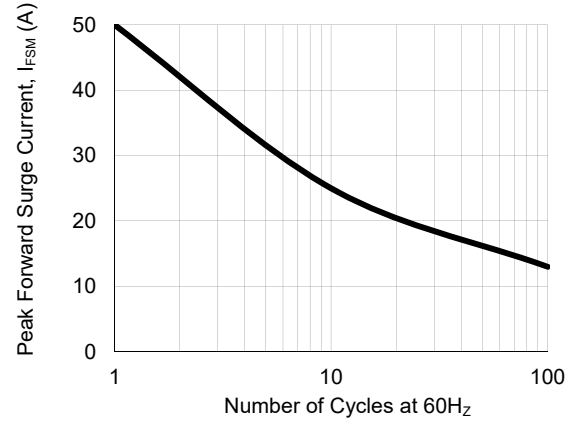
## ES2E - ES2G

### Ratings and Characteristic Curves (@ $T_A=25^\circ\text{C}$ unless otherwise noted)

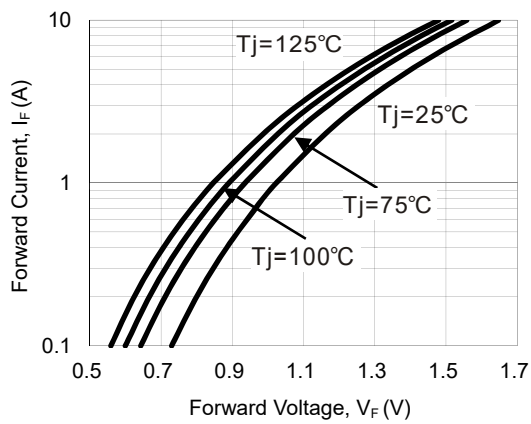
**Fig.1 Forward Current Derating Curve**



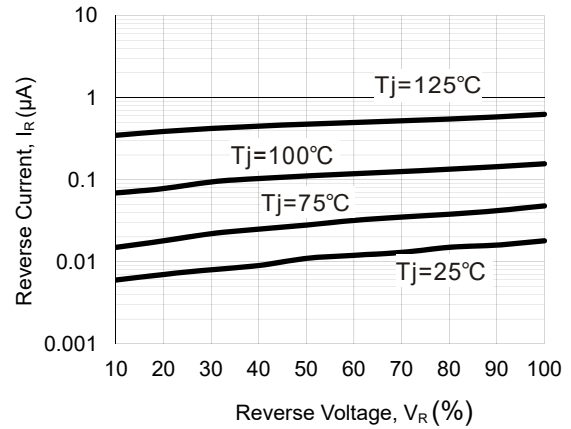
**Fig.2 Surge Current Derating Curve**



**Fig.3 Typical Forward Voltage Characteristics**



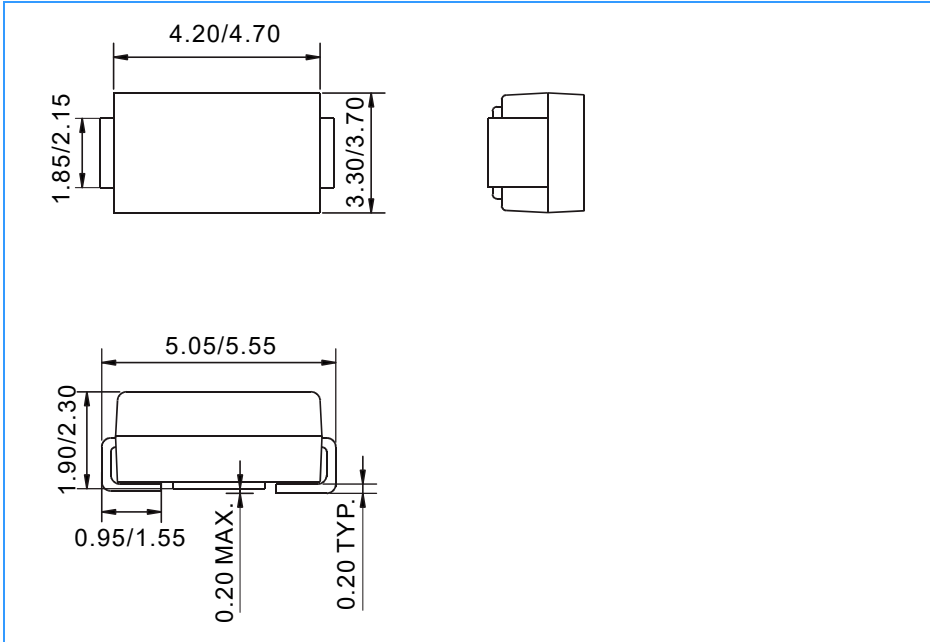
**Fig.4 Typical Reverse Characteristics**



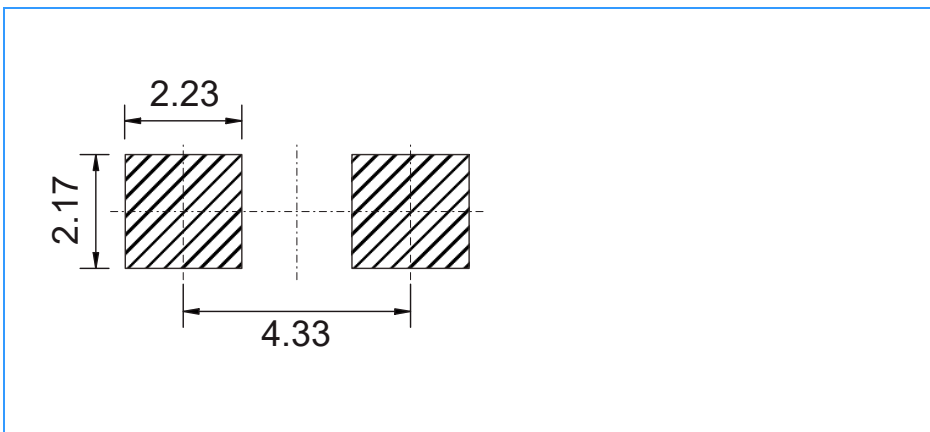
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## Package Outline Dimensions (Unit: mm)



## Mounting Pad Layout (Unit: mm)



## Ordering Information

Part Number	Marking	Package	Shipping Quantity
ES2E	ES2E	SMB	3000 / Tape & Reel
ES2G	ES2G	SMB	3000 / Tape & Reel