

Ultra-Fast Recovery Rectifier

SOF1H4 - SOF1H5

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: SOD-123F 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 (@ $T_A = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	SOF1H4	SOF1H5	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	300	400	V
RMS Reverse Voltage	V_{RMS}	210	280	V
DC Blocking Voltage	V_{DC}	300	400	V
Maximum Average Forward Output Current	I_{F_AV}	1.0		A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I_{FSM}	30		A

Thermal Characteristics

Parameter	Symbol	SOF1H4	SOF1H5	Unit
Typical Thermal Resistance *1	R _{ΘJA}	85		°C/W
	R _{ΘJC}	23		
	R _{ΘJL}	15		
Operating Junction Temperature Range	T _J	-55 ~ +150		°C
Storage Temperature Range	T _{STG}	-55 ~ +150		°C

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

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

Parameter	Symbol	Test Condition		Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage	V_F	$I_F = 1.0\text{A}$		-	1.3	V
Maximum Reverse Current	I_R	Rated V_R	@ $T_A = 25^\circ\text{C}$	-	10	μA
			@ $T_A = 125^\circ\text{C}$	-	200	
Maximum Reverse Recovery Time	t_{rr}	$I_F = 0.5\text{A}$, $I_{RM} = 1\text{A}$, $I_{R(REC)} = 0.25\text{A}$		-	50	ns

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

Fig.1 Forward Current Derating Curve

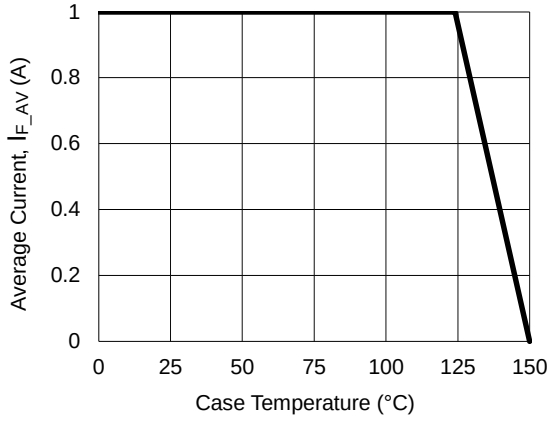


Fig.2 Surge Current Derating Curve

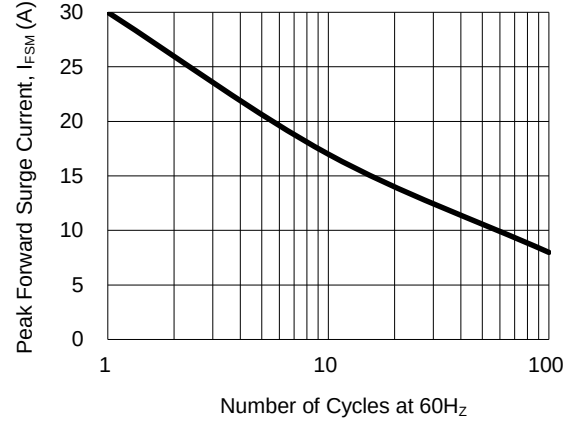


Fig.3 Typical Forward Voltage Characteristic

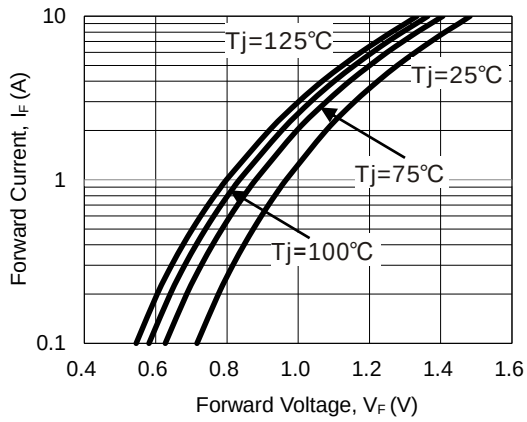
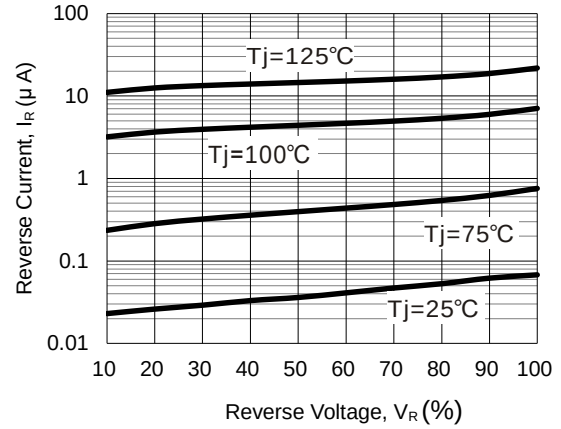


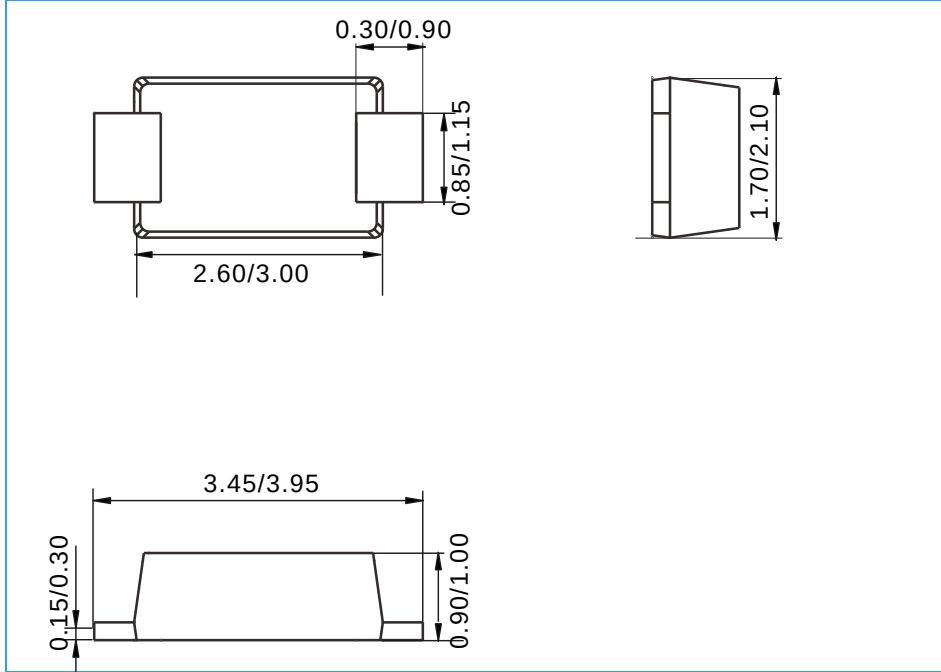
Fig.4 Typical Reverse Characteristic



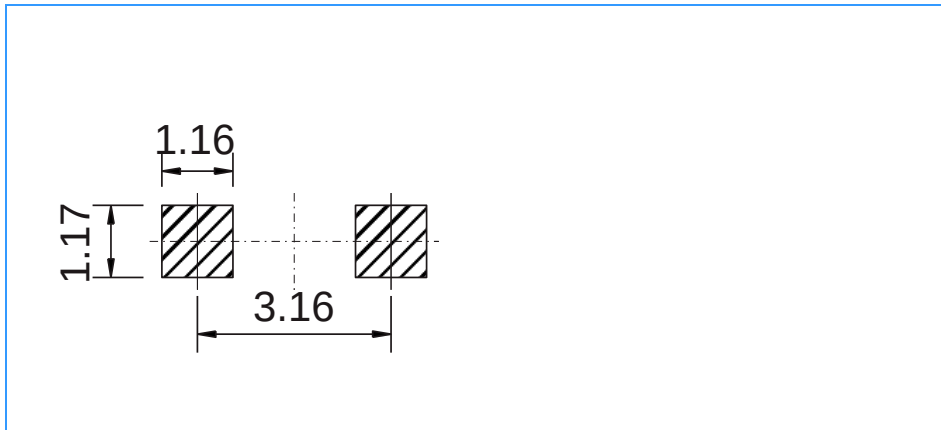
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
SOF1H4	H4	SOD-123F	10000 / Tape & Reel
SOF1H5	H5	SOD-123F	10000 / Tape & Reel