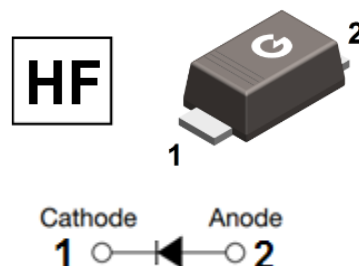


Ultra-Fast Recovery Rectifier

TSOD1H1 - TSOD1H3

Features

- Low forward voltage drop
- High forward surge current capability
- Low-profile SMD ideal for automated manufacturing
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards



Mechanical Data

- Case: SOD-123FL 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°C unless otherwise specified)

Parameter	Symbol	TSOD1H1	TSOD1H2	TSOD1H3	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	50	100	200	V
RMS Reverse Voltage	V _{RMS}	35	70	140	V
DC Blocking Voltage	V _{DC}	50	100	200	V
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	TSOD1H1	TSOD1H2	TSOD1H3	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 area

Ultra-Fast Recovery Rectifier

TSOD1H1 - TSOD1H3

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

Parameter	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 2\mu\text{A}$, TSOD1H1		50	-	-	V
		$I_R = 2\mu\text{A}$, TSOD1H2		100	-	-	V
		$I_R = 2\mu\text{A}$, TSOD1H3		200	-	-	V
Maximum Instantaneous Forward Voltage	V_F	$I_F = 1.0\text{A}$		-	-	1.0	V
Maximum Reverse Current	I_R	Rated	@ $T_A = 25^\circ\text{C}$	-	-	10	μA
		V_R	@ $T_A = 125^\circ\text{C}$	-	-	200	
Maximum Reverse Recovery Time	t_{rr}	$I_F = 0.5\text{A}$, $I_{rr} = 0.25\text{A}$, $I_R = 1\text{A}$		-	-	50	ns

Ultra-Fast Recovery Rectifier

TSOD1H1 - TSOD1H3

Ratings and Characteristic Curves (@T_A=25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

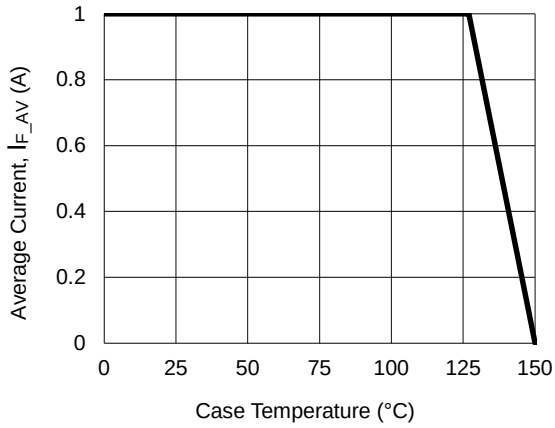


Fig.2 Surge Current Derating Curve

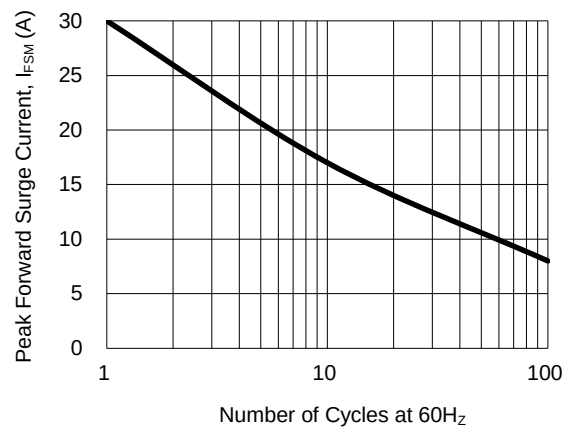


Fig.3 Typical Forward Voltage Characteristic

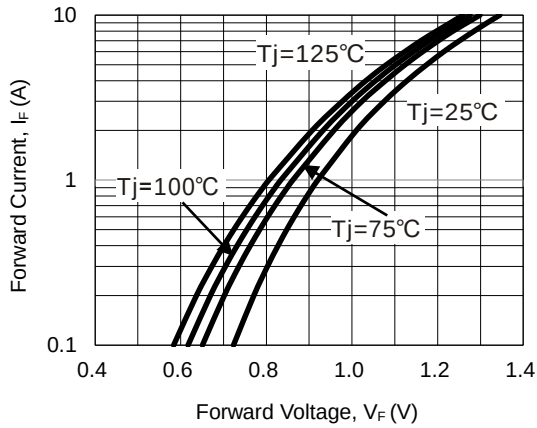
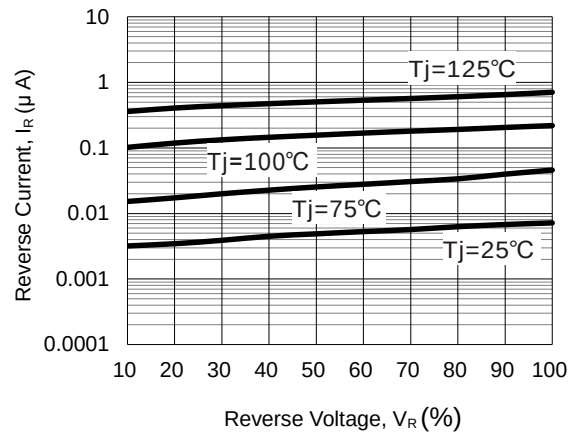


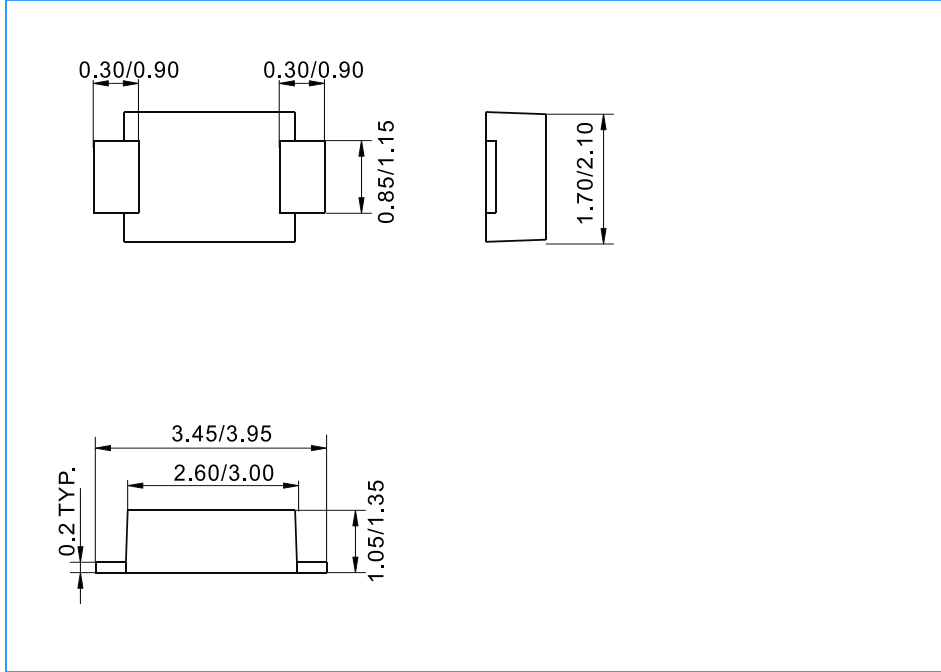
Fig.4 Typical Reverse Characteristic



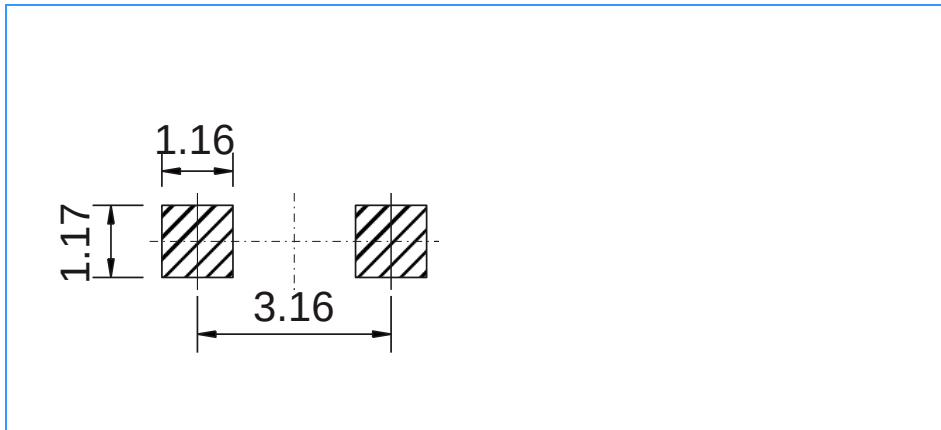
Ultra-Fast Recovery Rectifier

TSOD1H1 - TSOD1H3

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TSOD1H1	H1	SOD-123FL	10000 pcs / Tape & Reel
TSOD1H2	H2	SOD-123FL	10000 pcs / Tape & Reel
TSOD1H3	H3	SOD-123FL	10000 pcs / Tape & Reel