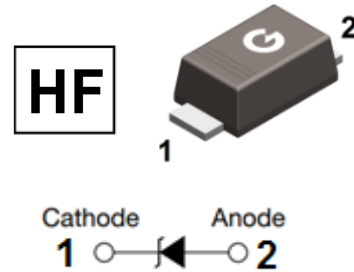


Fast Recovery Rectifier

TSOD1F1 - TSOD1F4

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	TSOD1F1	TSOD1F2	TSOD1F4	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	100	200	400	V
RMS Reverse Voltage	V _{RMS}	70	140	280	V
DC Blocking Voltage	V _{DC}	100	200	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	TSOD1F1	TSOD1F2	TSOD1F4	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

Fast Recovery Rectifier

TSOD1F1 - TSOD1F4

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 = 2μA, TSOD1F1	100	-	-	V	
		I _R = 2μA, TSOD1F2	200	-	-	V	
		I _R = 2μA, TSOD1F4	400	-	-	V	
Maximum InstantaneousForward Voltage	V _F	I _F =1.0A	-	-	1.3	V	
Maximum Reverse Current	I _R	Rated V _R	@T _A =25°C	-	-	5	μA
			@T _A =125°C	-	-	50	
Maximum Reverse Recovery Time	trr	I _F =0.5A,I _{RM} =1A,I _{R(REC)} =0.25A	-	-	150	ns	

Fast Recovery Rectifier

TSOD1F1 - TSOD1F4

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

Fig. 1 Forward Current Derating Curve

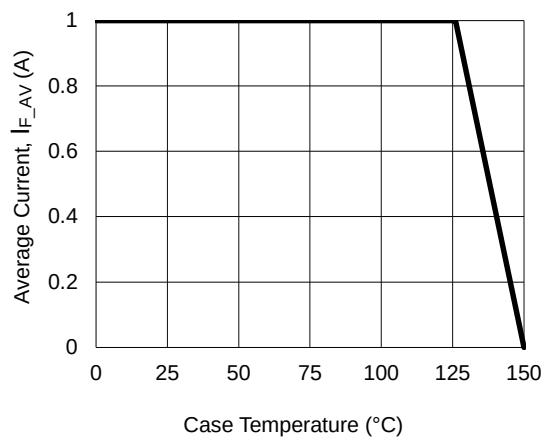


Fig. 2 Surge Current Derating Curve

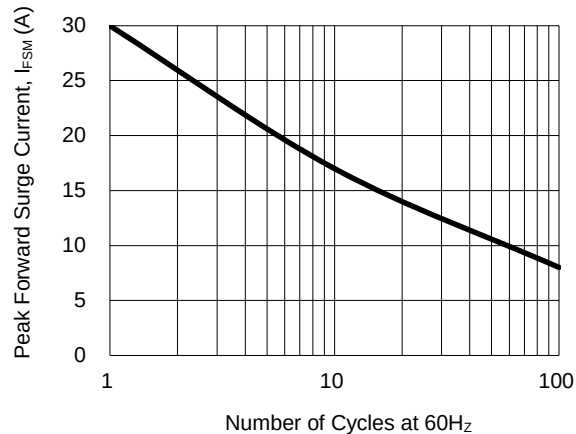


Fig. 3 Typical Forward Voltage Characteristics

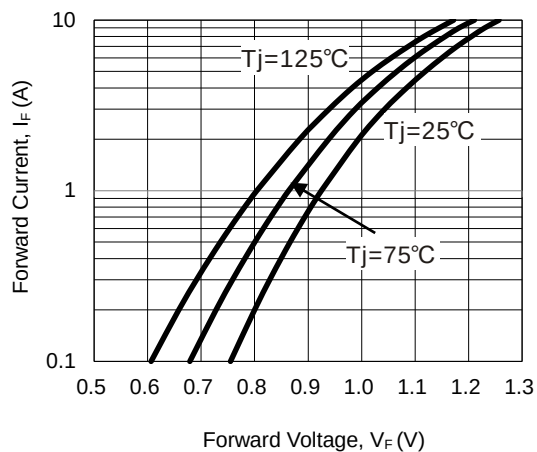
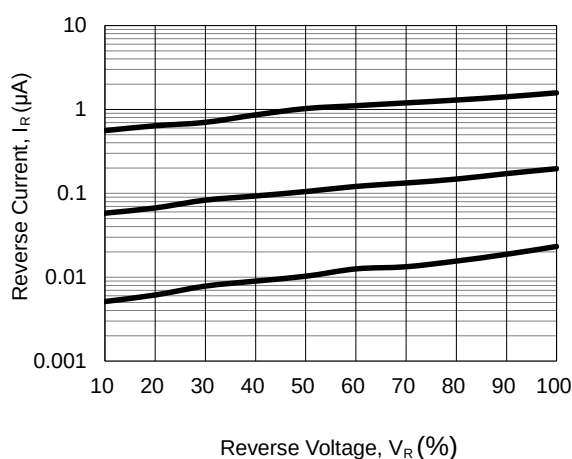


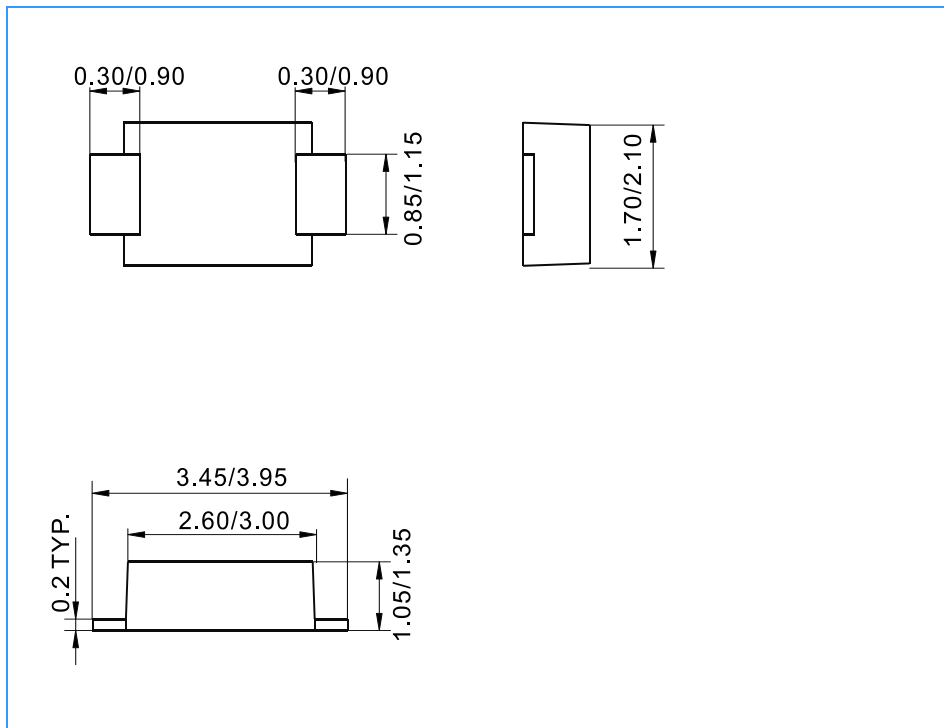
Fig. 4 Typical Reverse Characteristics



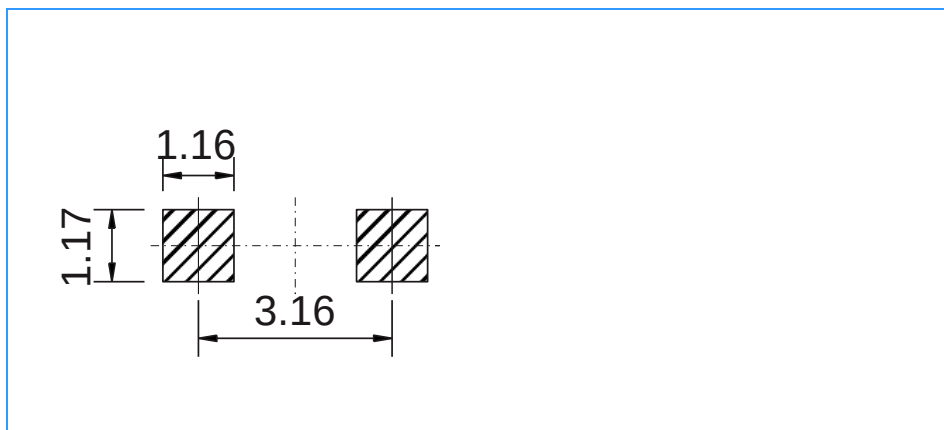
Fast Recovery Rectifier

TSOD1F1 - TSOD1F4

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TSOD1F1	FB	SOD-123FL	10000 pcs / Tape & Reel
TSOD1F2	FD	SOD-123FL	10000 pcs / Tape & Reel
TSOD1F4	FG	SOD-123FL	10000 pcs / Tape & Reel