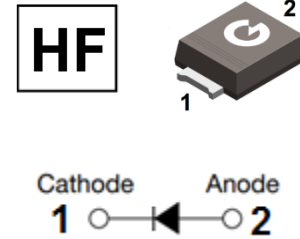


Schottky Barrier Rectifier

TSH32BF - TSH345BF

Features

- Metal silicon junction, majority carrier conduction
- High forward surge current capability
- Low forward voltage drop
- High temperature soldering guaranteed: 260°C @ 10s
- Robust guarding for over voltage protection
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards



Mechanical Data

- Case: SMBF molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads; solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	TSH32BF	TSH33BF	TSH34BF	TSH345BF	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	20	30	40	45	V
RMS Reverse Voltage	V _{RMS}	14	21	28	31.5	V
DC Blocking Voltage	V _{DC}	20	30	40	45	V
Average Forward Output Current	I _{F_AV}	3.0				A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I _{FSM}	80				A

Thermal Characteristics

Parameter	Symbol	TSH32BF	TSH33BF	TSH34BF	TSH345BF	Unit
Typical Thermal Resistance *1	R _{θJA}	65				°C/W
	R _{θJC}	16				
	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 0.1 mm copper pad area

Schottky Barrier Rectifier

TSH32BF - TSH345BF

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

Parameter	Symbol	Test Conditions		Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu\text{A}$, TSH32BF		20	-	-	V
		$I_R = 100\mu\text{A}$, TSH33BF		30	-	-	V
		$I_R = 100\mu\text{A}$, TSH34BF		40	-	-	V
		$I_R = 100\mu\text{A}$, TSH345BF		45	-	-	V
Instantaneous Forward Voltage* ¹	V_F	$I_F = 3.0\text{A}$	@ $T_A = 25^\circ\text{C}$	-	-	0.55	V
Reverse Current* ²	I_R	Rated	@ $T_J = 25^\circ\text{C}$	-	-	100	μA
		V_R	@ $T_J = 100^\circ\text{C}$	-	-	10	mA

Note*¹: Pulse test: 300us pulse width, 1 % duty cycle

Note*²: Pulse test: Pulse width 40ms

Schottky Barrier Rectifier

TSH32BF - TSH345BF

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

Fig.1 Forward Current Derating Curve

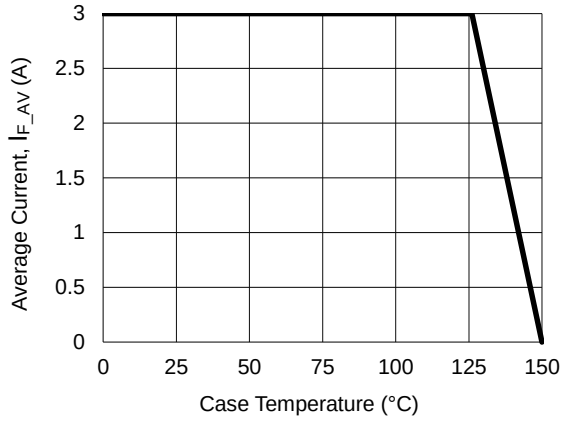


Fig.2 Surge Current Derating Curve

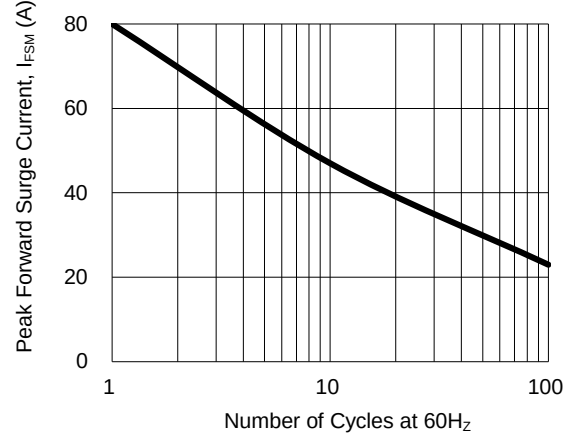


Fig.3 Typical Forward Voltage Characteristics

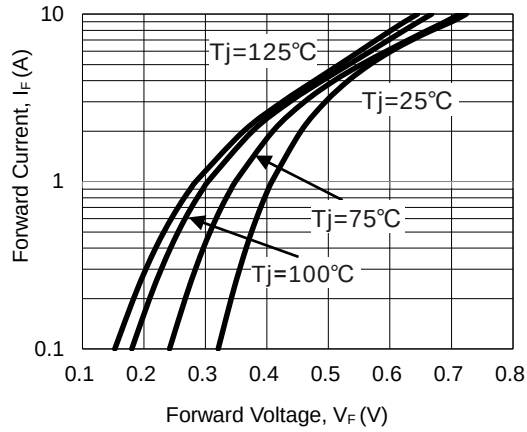
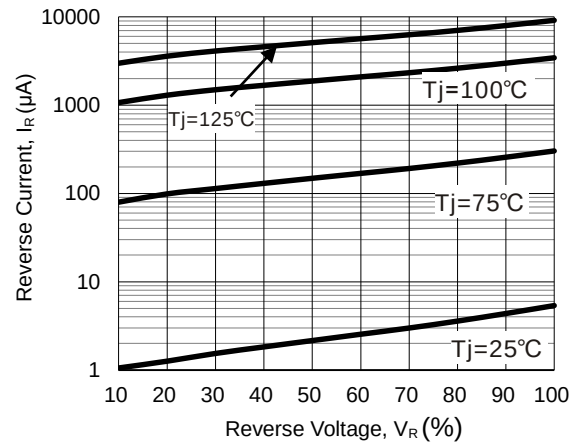


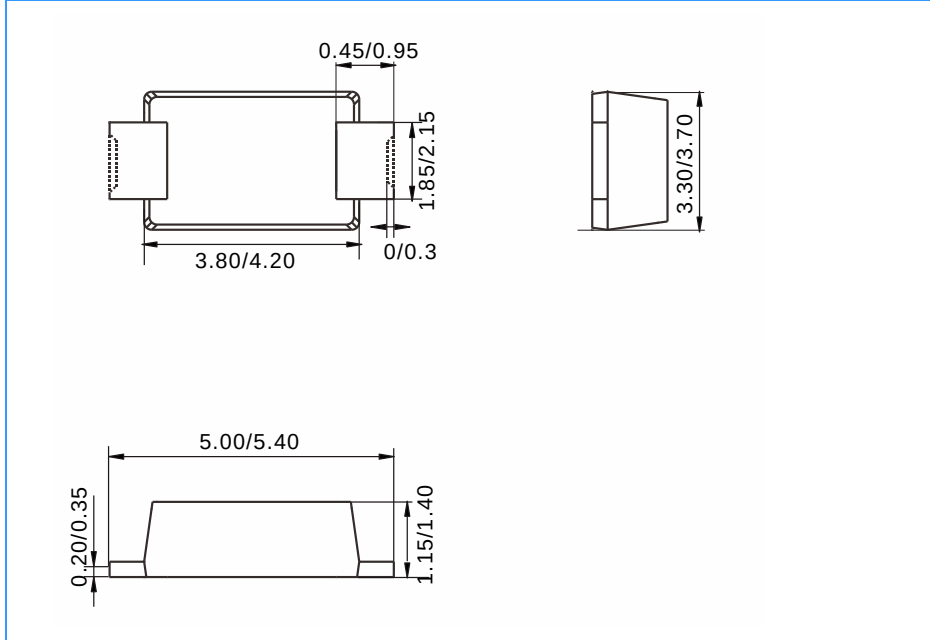
Fig.4 Typical Reverse Characteristics



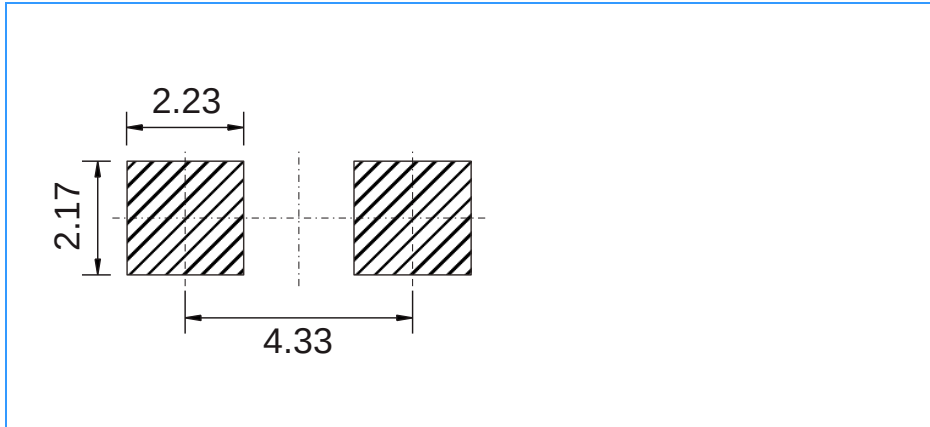
Schottky Barrier Rectifier

TSH32BF - TSH345BF

Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TSH32BF	SH32BF	SMBF	4000 pcs / Tape & Reel
TSH33BF	SH33BF	SMBF	4000 pcs / Tape & Reel
TSH34BF	SH34BF	SMBF	4000 pcs / Tape & Reel
TSH345BF	SH345BF	SMBF	4000 pcs / Tape & Reel