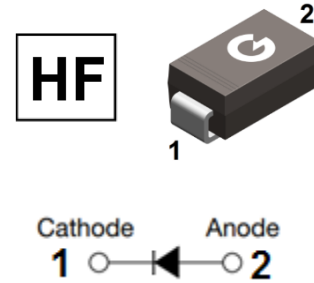


Schottky Barrier Rectifier

TSH22A-TSH245A

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: SMA 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	TSH22A	TSH23A	TSH24A	TSH245A	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}	2.0				A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I _{FSM}	50				A

Thermal Characteristics

Parameter	Symbol	TSH22A	TSH23A	TSH24A	TSH245A	Unit
Typical Thermal Resistance *1	R _{θJA}	70				°C/W
	R _{θJC}	30				
	R _{θJL}	25				
Operating Junction Temperature Range	T _J	-55 ~ +150				°C
Storage Temperature Range	T _{STG}	-55 ~ +150				°C

Schottky Barrier Rectifier

TSH22A-TSH245A

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu\text{A}$, TSH22A	20	-	-	V
		$I_R = 100\mu\text{A}$, TSH23A	30	-	-	V
		$I_R = 100\mu\text{A}$, TSH24A	40	-	-	V
		$I_R = 100\mu\text{A}$, TSH245A	45	-	-	V
Forward Voltage ^{*2}	V_F	$I_F = 2\text{A}$	-	-	0.55	V
Maximum Peak Reverse Current ^{*3}	I_R	Rated V_R , $T_J = 25^\circ\text{C}$	-	-	100	μA
		Rated V_R , $T_J = 100^\circ\text{C}$	-	-	10	mA

Notes:

1. The data tested by surface mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area
2. The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 1\%$
3. The data tested by pulsed, pulse width $\leq 40\text{ms}$

Schottky Barrier Rectifier

TSH22A-TSH245A

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

Fig.1 Forward Current Derating Curve

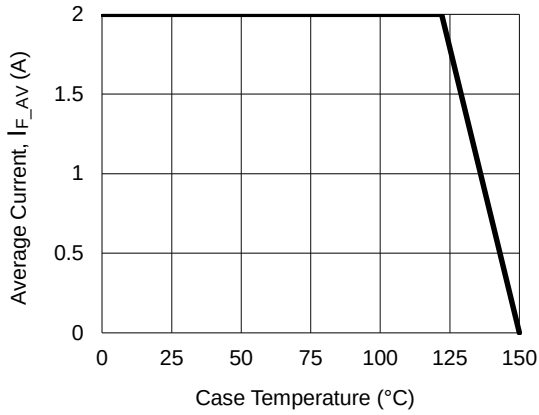


Fig.2 Surge Current Derating Curve

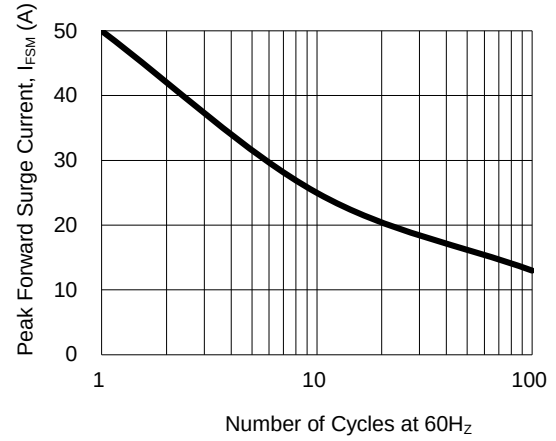


Fig.3 Typical Forward Voltage Characteristics

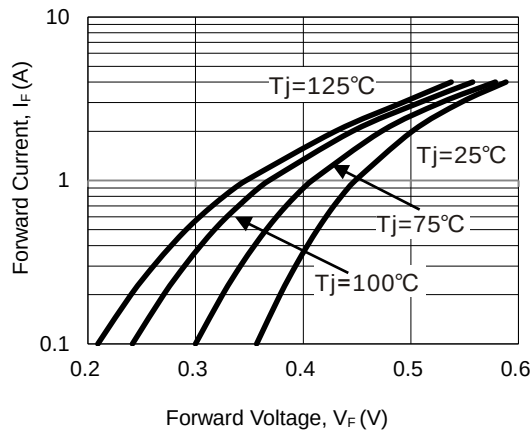
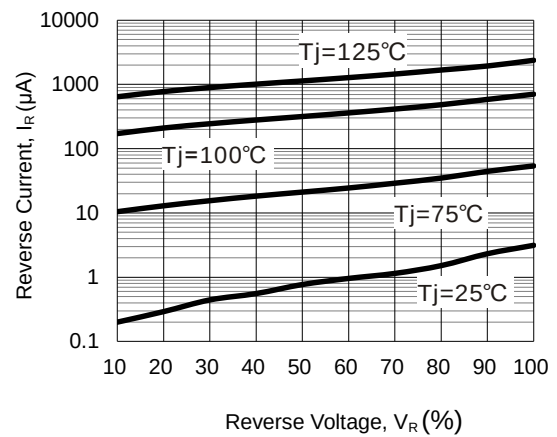


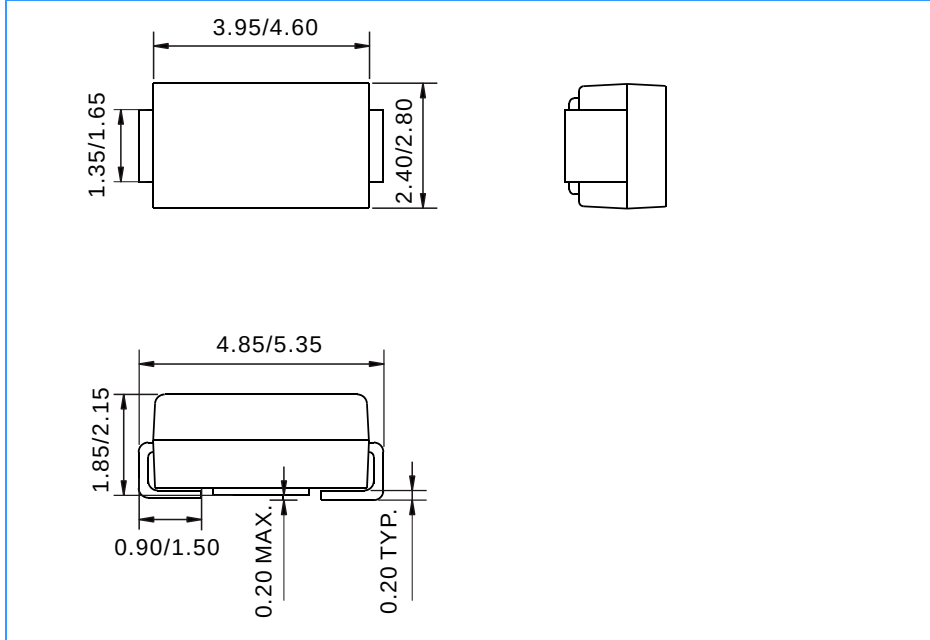
Fig.4 Typical Reverse Characteristics



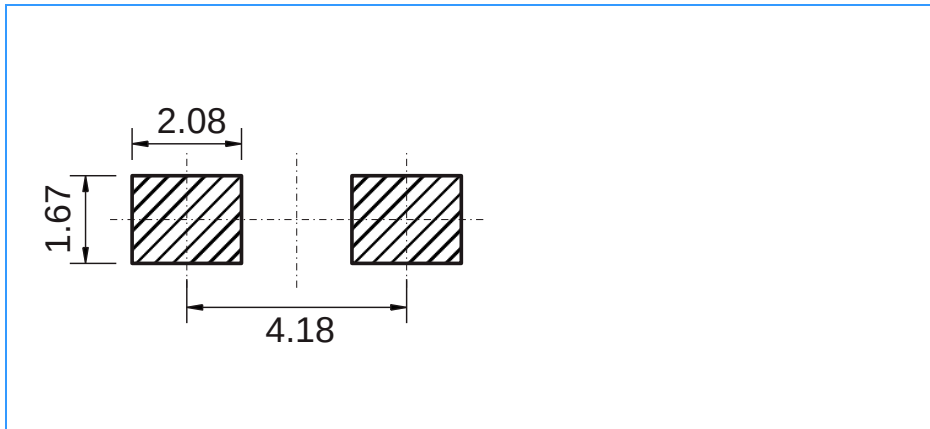
Schottky Barrier Rectifier

TSH22A-TSH245A

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TSH22A	SH22A	SMA	5000 pcs / Tape & Reel
TSH23A	SH23A	SMA	5000 pcs / Tape & Reel
TSH24A	SH24A	SMA	5000 pcs / Tape & Reel
TSH245A	SH245A	SMA	5000 pcs / Tape & Reel