

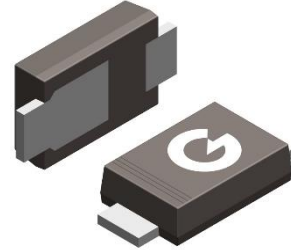
Schottky Barrier Rectifier

TSS1020HE - TSS1040HE

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

HF



Mechanical Data

- Case: SOD-323HE 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	TSS1020HE	TSS1030HE	TSS1040HE	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	20	30	40	V
RMS Reverse Voltage	V _{RMS}	14	21	28	V
DC Blocking Voltage	V _{DC}	20	30	40	V
Average Forward Output Current	I _{F_AV}	1.0			A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I _{FSM}	25			A

Thermal Characteristics

Parameter	Symbol	TSS1020HE	TSS1030HE	TSS1040HE	Unit
Typical Thermal Resistance *1	R _{θJA}	88			°C/W
	R _{θJC}	35			
	R _{θJL}	22			
Operating Junction Temperature Range	T _J	-55 ~ +125			°C
Storage Temperature Range	T _{STG}	-55 ~ +150			°C

Note *1: Device mounted on p.c.b. with 2.2cm x 1.7 cm x 1mm copper pad area

Schottky Barrier Rectifier**TSS1020HE - TSS1040HE****Electrical Characteristics** (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Typ.	Max.	Unit
Instantaneous Forward Voltage ^{*1}	V_F	$I_F = 1.0\text{A}$	@ $T_A = 25^\circ\text{C}$	-	0.55	V
Reverse Current ^{*2}	I_R	Rated V_R	@ $T_J = 25^\circ\text{C}$	-	100	μA
			@ $T_J = 100^\circ\text{C}$	-	10	mA

Note^{*1}: Pulse test: 300us pulse width, 1 % duty cycleNote^{*2}: Pulse test: Pulse width 40ms

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TSS1020HE - TSS1040HE

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

Fig. 1 Forward Current Derating Curve

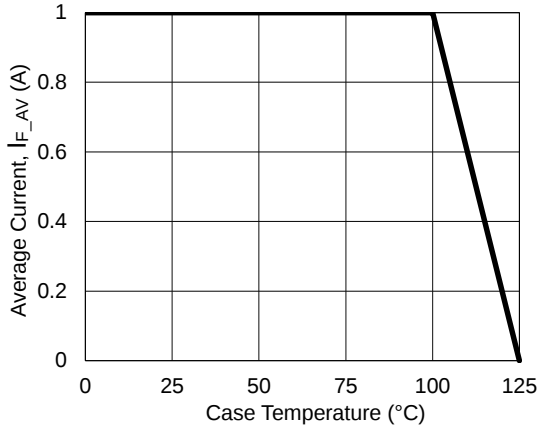


Fig. 2 Surge Current Derating Curve

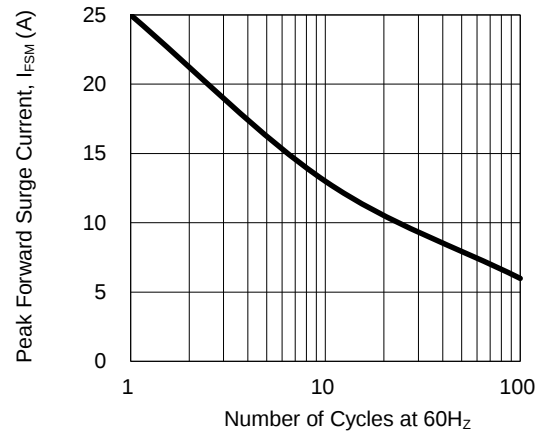


Fig. 3 Typical Forward Voltage Characteristics

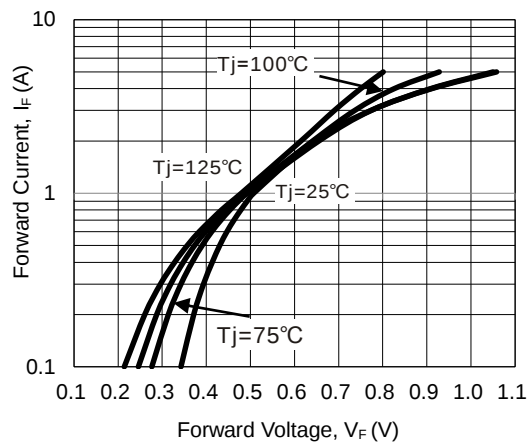
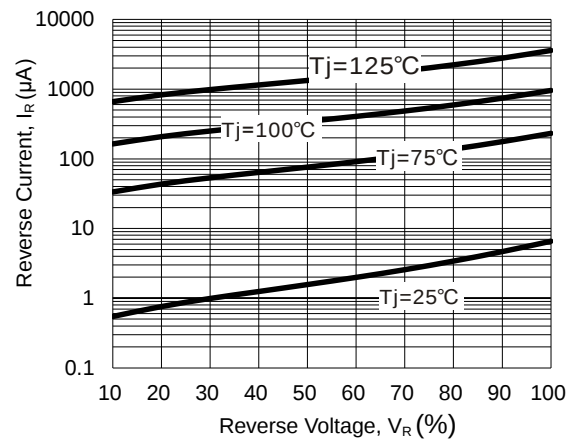


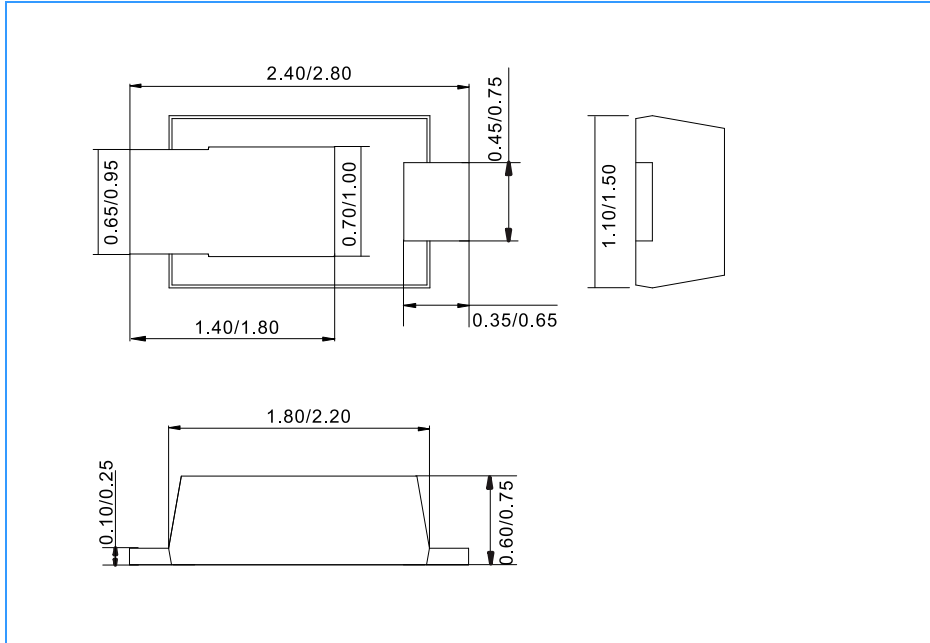
Fig. 4 Typical Reverse Characteristics



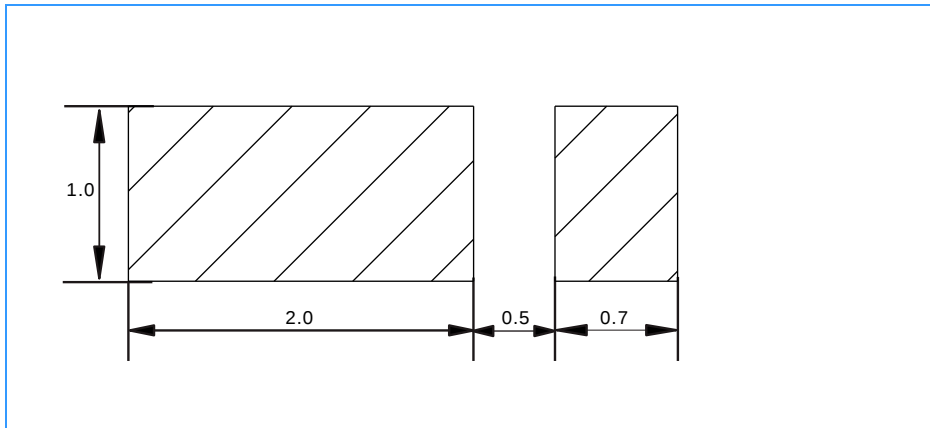
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package
TSS1020HE	12	SOD-323HE
TSS1030HE	13	SOD-323HE
TSS1040HE	14	SOD-323HE