

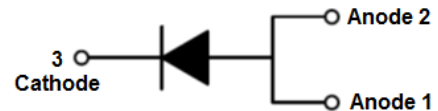
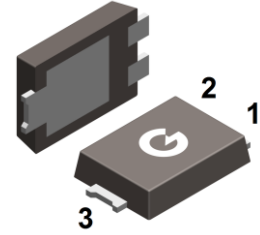
Schottky Barrier Rectifier

TD5PS50L - TD5PS60L

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: TO-277B molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208

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

Parameter	Symbol	TD5PS50L	TD5PS60L	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	50	60	V
RMS Reverse Voltage	V _{RMS}	35	42	V
DC Blocking Voltage	V _{DC}	50	60	V
Average Forward Output Current	I _{F_AV}	5.0		A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	I _{FSM}	120		A

Thermal Characteristics

Parameter	Symbol	TD5PS50L	TD5PS60L	Unit
Typical Thermal Resistance *1	R _{θJA}	60		°C/W
	R _{θJC}	20		
	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

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

Parameter	Symbol	Test Conditions		Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 200\mu\text{A}$, TD5PS50L		50	-	-	V
		$I_R = 200\mu\text{A}$, TD5PS60L		60	-	-	V
Instantaneous Forward Voltage* ¹	V_F	$I_F = 5.0\text{A}$	@ $T_A = 25^\circ\text{C}$	-	-	0.53	V
Reverse Current* ²	I_R	Rated V_R	@ $T_J = 25^\circ\text{C}$	-	-	200	μA
			@ $T_J = 100^\circ\text{C}$	-	-	20	mA

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

Note*²: Pulse test: Pulse width 40ms

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

Fig.1 Forward Current Derating Curve

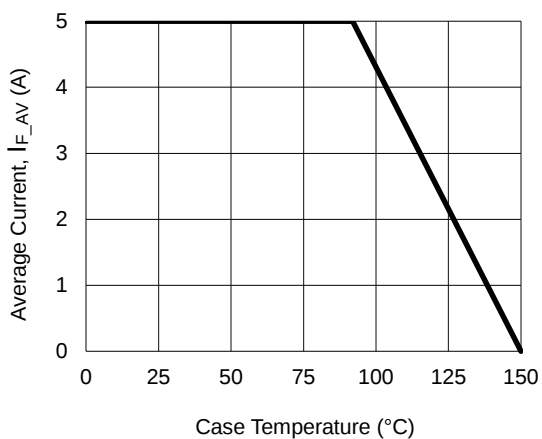


Fig.2 Surge Current Derating Curve

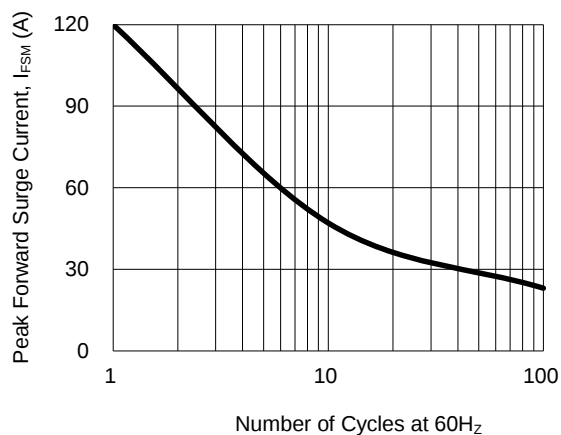


Fig.3 Typical Forward Voltage Characteristics

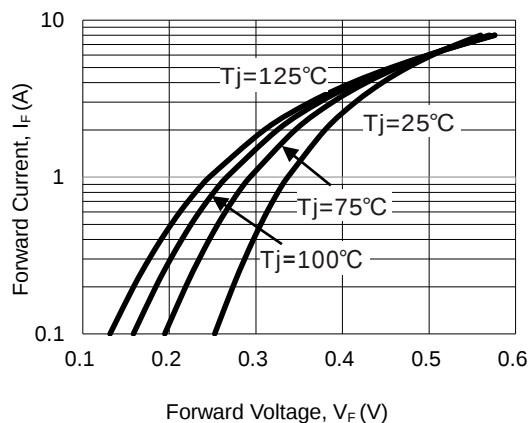
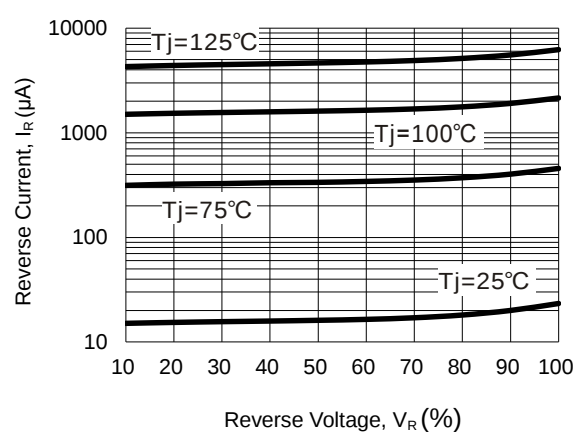


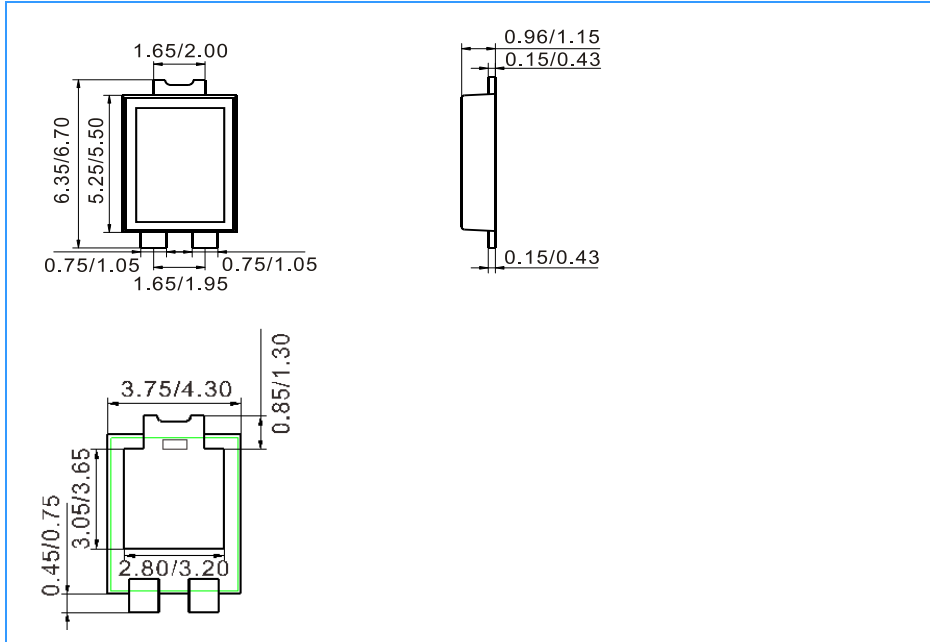
Fig.4 Typical Reverse Characteristics



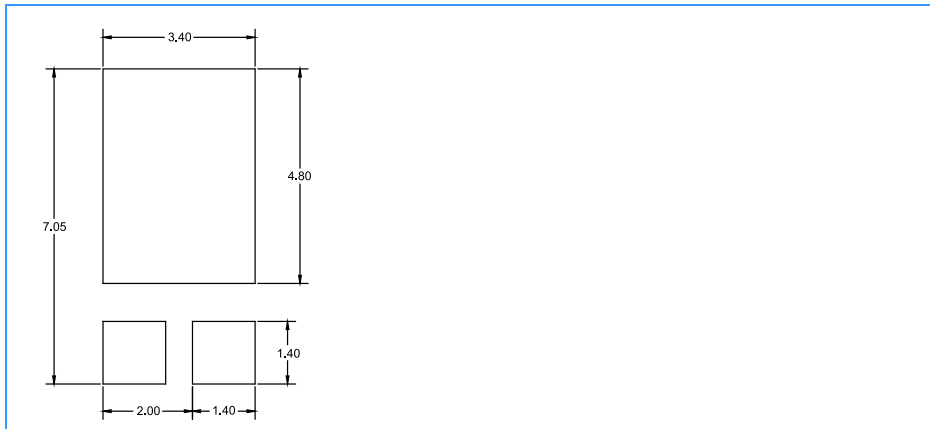
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TD5PS50L	D5S50L	TO-277B	4000 pcs / Tape & Reel
TD5PS60L	D5S60L	TO-277B	4000 pcs / Tape & Reel