

## SCHOTTKY BARRIER RECTIFIER

**VOLTAGE RANGE: 50 V**  
**CURRENT: 15.0 A**

### FEATURES

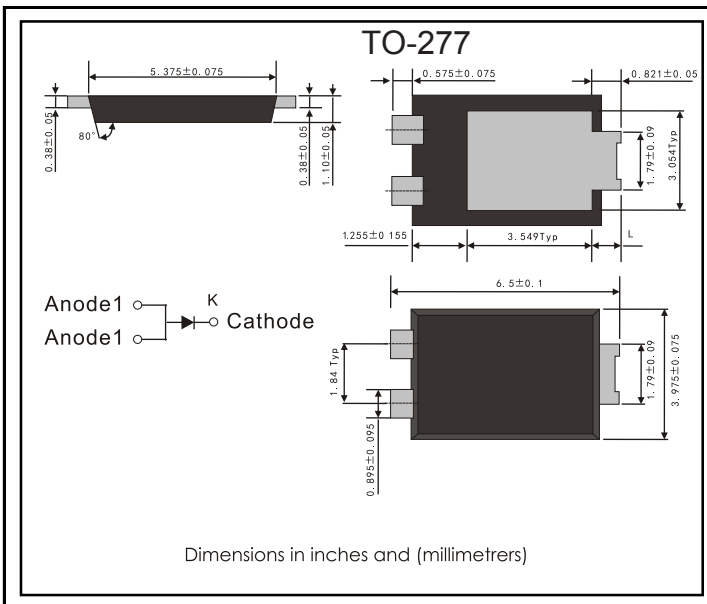
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
  - Metal silicon junction ,majority carrier conduction
  - Guard ring for overvoltage protection
  - Low power loss ,high efficiency
  - High current capability ,low forward voltage drop
  - High surge capability
  - Very low profile-typical height of 1.1mm
  - Ideal for automated placement
  - High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU



### MECHANICAL DATA

- Case: TO-277 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750,method 2026
- Mounting Position: Any
- Weight: 0.092 grams (approx)

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase,half wave,60 Hz,resistive or inductive load. For capacitive load,derate by 20%.

Parameter	Symbol	SP15U50L	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	V
Maximum average forward rectified current	$I_{F(AV)}$	15.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	$I_{FSM}$	150	A
Operating junction temperature range	$T_J$	-55 to+150	°C
Storage temperature range	$T_{stg}$	-55 to+150	°C

Parameter	Test Conditions	Symbol	TYP.	MAX.	Unit
Instaneous forward voltage	$T_J=25^\circ\text{C}$	$I_F=15\text{A}$	0.47	0.50	V
		$I_F=10\text{A}$	0.43	-	
		$I_F=5\text{A}$	0.37	-	
	$T_J=125^\circ\text{C}$	$I_F=15\text{A}$	0.44	0.47	
		$I_F=10\text{A}$	0.38	-	
		$I_F=5\text{A}$	0.36	-	
Reverse current	$V_R=50\text{V}$	$T_A=25^\circ\text{C}$	80	200	$\mu\text{A}$
		$T_A=100^\circ\text{C}$	8	15	mA
		$T_A=125^\circ\text{C}$	20	50	
Typical junction capacitance	4V, 1MHz	$C_J$	750		pF

Parameter	Symbol	SP15U50L	Unit
Typical thermal resistance <sup>3)</sup>	$R_{\theta JA}$	60.0	°C/W
	$R_{\theta JL}$	3.0	

Notes: 1.Pulse test: 300  $\mu\text{s}$  pulse width,1% duty cycle

2.Pulse test: pulse width $\leq$ 40ms

3 Units mounted on recommended PCB 1 oz. Pad layout

FIG.1-FORWARD CURRENT DERATING CURVE

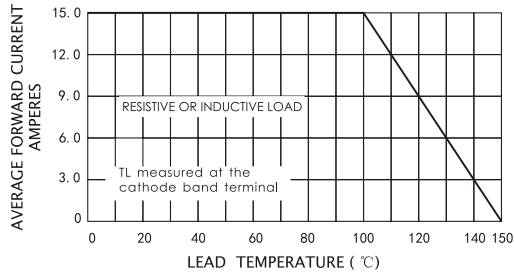


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

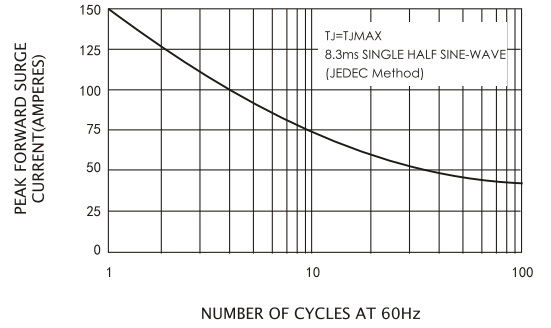


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

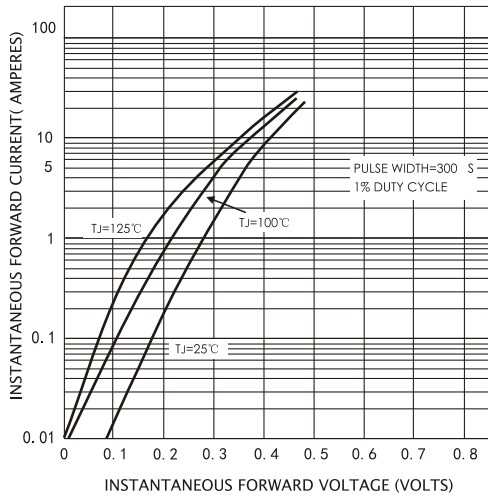


FIG.4-TYPICAL REVERSE CHARACTERISTICS

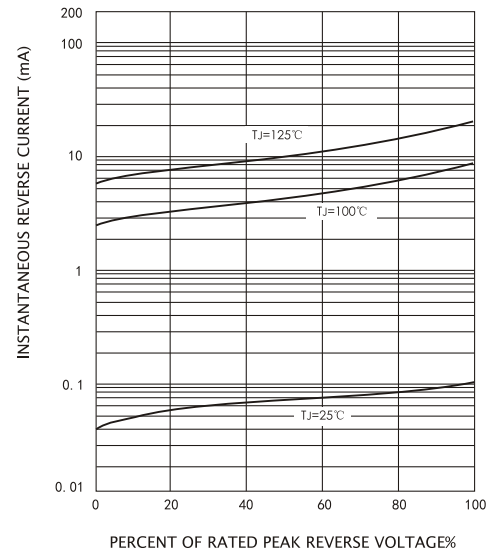
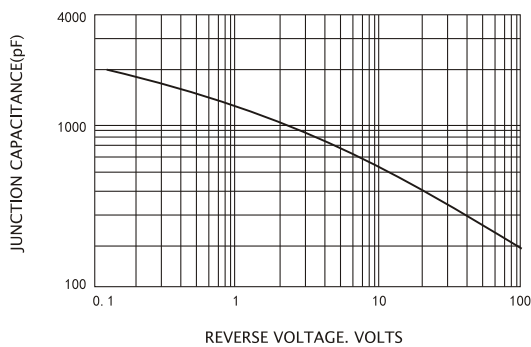


FIG.5-TYPICAL JUNCTION CAPACITANCE



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