



## Surface Mount General Purpose Rectifier

### Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

### Mechanical Data

**Case:** TO-277B

Molding compound meets UL 94 V-0 flammability rating

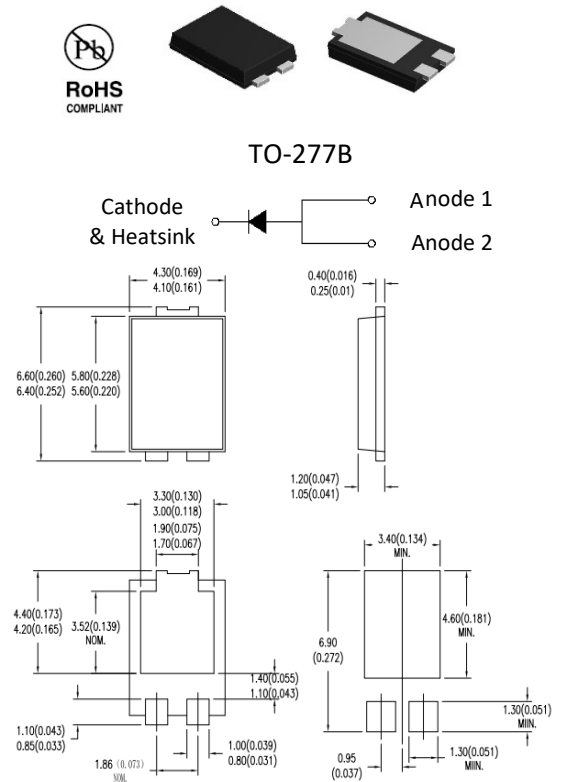
Moisture sensitivity level: level 1, per J-STD-020

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

**Polarity:** Indicated by cathode band

**Weight:** 0.095g (approximately)



### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S5A	S5B	S5D	S5G	S5J	S5K	S5M
Maximum Repetitive peak reverse voltage	$V_{RRM}$	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	$V_{RMS}$	V	35	70	140	280	420	560	700
Maximum DC Blocking Voltage	$V_{DC}$	V	50	100	200	400	600	800	1000
Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1)	$I_o$	A	5.0						
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Tj=25°C	$I_{FSM}$	A	150						
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25°C			300						
Current squared time @1ms≤t≤8.3ms Tj=25°C	$I^2t$	A <sup>2</sup> s	94						
Storage Temperature	$T_{stg}$	°C	-55 ~ +150						
Junction Temperature	$T_j$	°C	-55 ~ +150						



■ **Electrical Characteristics** ( $T_a=25^\circ\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	S5A	S5B	S5D	S5G	S5J	S5K	S5M	
Maximum instantaneous forward voltage	V <sub>F</sub>	V	I <sub>FM</sub> =5.0A	1.1							
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	μA	T <sub>j</sub> =25°C	5							
			T <sub>j</sub> =125°C	100							
Typical junction capacitance	C <sub>j</sub>	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	33							

■ **Thermal Characteristics** ( $T_a=25^\circ\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	S5A	S5B	S5D	S5G	S5J	S5K	S5M	
Typical Thermal resistance	R <sub>θJ-A</sub>	°C/W	48							
	R <sub>θJ-L</sub>		15							
	R <sub>θJ-C</sub>		12							

Note(1)

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

■ **Characteristics(Typical)**

FIG.1: I<sub>o</sub>-T<sub>L</sub> Curve

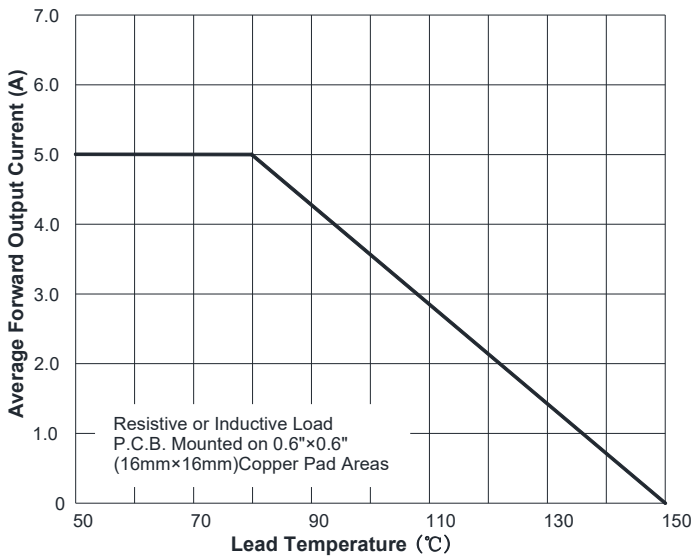


FIG.2: Forward Surge Current Capability

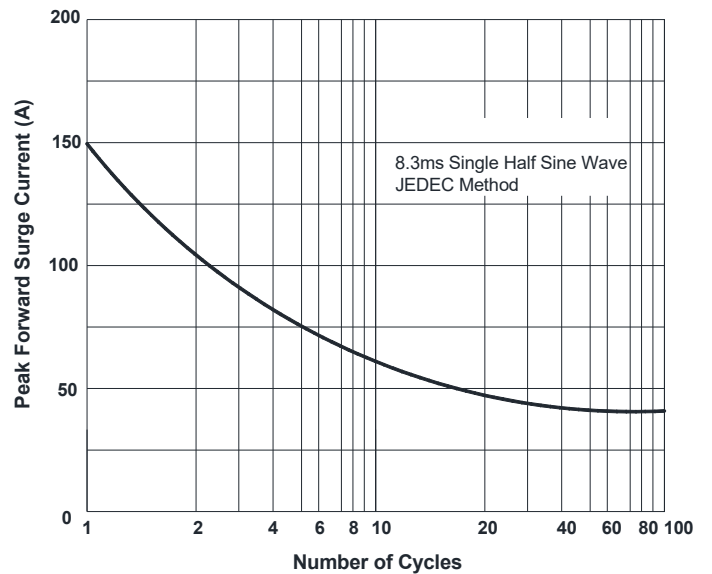


FIG.3: Typical Forward Voltage

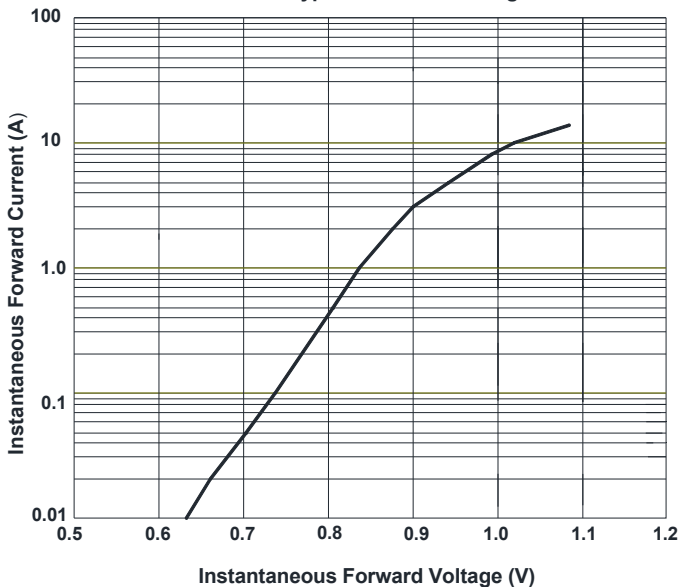


FIG.4: Typical Reverse Characteristics

