

### FEATURES

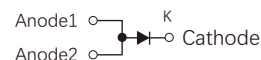
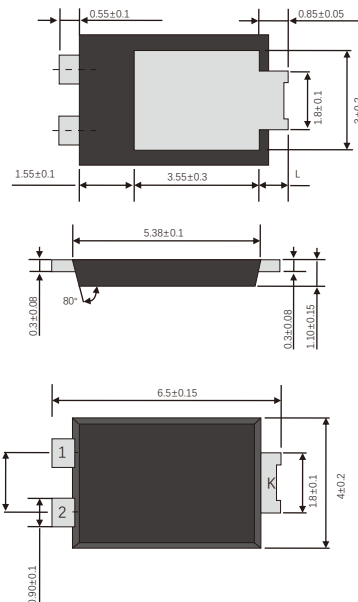
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
  - Metal silicon junction ,majority carrier conduction
  - Guard ring for overvoltage protection
  - Low power loss ,high efficiency
  - High current capability ,low forward voltage drop
  - High surge capability
  - Very 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 2015/863/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)

### TO-277



Dimensions in inches and (millimeters)

### TYPICAL APPLICATIONS

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

### MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified )

| Parameter                                                                                                    | Symbol      | Value       | Unit |
|--------------------------------------------------------------------------------------------------------------|-------------|-------------|------|
| Maximum repetitive peak reverse voltage                                                                      | $V_{RRM}$   | 60          | V    |
| Maximum average forward rectified current                                                                    | $I_{F(AV)}$ | 8.0         | A    |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL) | $I_{FSM}$   | 120         | A    |
| Operating junction temperature range                                                                         | $T_J$       | -55 to +150 | °C   |
| Storage temperature range                                                                                    | $T_{stg}$   | -55 to +150 | °C   |

## RATINGS AND CHARACTERISTIC OF SP8U60L

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C Unless otherwise noted)

| Parameter                     | Test Conditions      |                       | Symbol                       | TYP. | MAX. | Unit |
|-------------------------------|----------------------|-----------------------|------------------------------|------|------|------|
| Instantaneous forward voltage | I <sub>F</sub> =8.0A | T <sub>A</sub> =25°C  | V <sub>F</sub> <sup>1)</sup> | 0.51 | 0.56 | V    |
|                               |                      | T <sub>A</sub> =100°C |                              | 0.48 | -    |      |
|                               |                      | T <sub>A</sub> =125°C |                              | 0.47 | -    |      |
|                               | I <sub>F</sub> =3.0A | T <sub>A</sub> =25°C  |                              | 0.40 | -    |      |
|                               |                      | T <sub>A</sub> =100°C |                              | 0.34 | -    |      |
|                               |                      | T <sub>A</sub> =125°C |                              | 0.31 | -    |      |
| Reverse current               | V <sub>R</sub> =60V  | T <sub>A</sub> =25°C  | I <sub>R</sub> <sup>2)</sup> | -    | 100  | μA   |
|                               |                      | T <sub>A</sub> =100°C |                              | -    | 10   | mA   |
|                               |                      | T <sub>A</sub> =125°C |                              | -    | 50   |      |
| Typical junction capacitance  | 4V,1MHz              |                       | C <sub>J</sub>               | 670  |      | pF   |

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width ≤ 40ms

### THERMAL CHARACTERISTICS

| Parameter                                | Symbol           | TO-277 | Unit |
|------------------------------------------|------------------|--------|------|
| Typical thermal resistance <sup>3)</sup> | R <sub>θJA</sub> | 60.0   | °C/W |
|                                          | R <sub>θJL</sub> | 3.0    |      |

3 Units mounted on recommended PCB 1 oz. Pad layout

### AVAILABLE PACK INFORMATION

| Product code   | Pack | Reel Size (mm) | Quantity (pcs/reel) | Box Size L*W*H(mm ) | Quantity (reel/box) | Carton Size L*W*H(mm ) | Quantity (box/carton) |
|----------------|------|----------------|---------------------|---------------------|---------------------|------------------------|-----------------------|
| SP8U60L-TO-277 | T/R  | φ300           | 5000                | 338*338*40          | 2                   | 365*365*360            | 7                     |

# RATINGS AND CHARACTERISTIC OF SP8U60L

FIG.1-FORWARD CURRENT DERATING CURVE

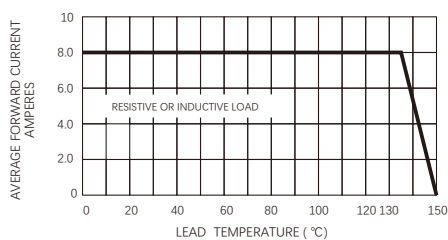


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

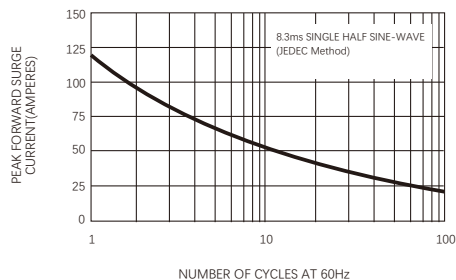


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

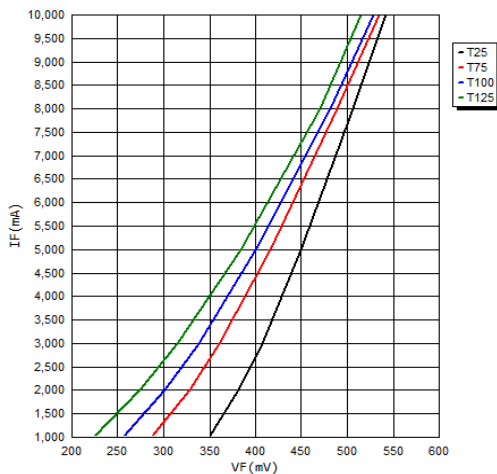


FIG.4-TYPICAL REVERSE CHARACTERISTICS

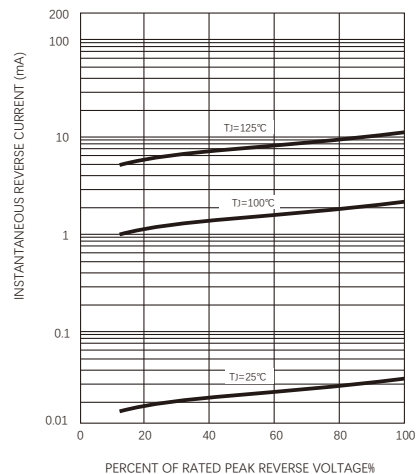
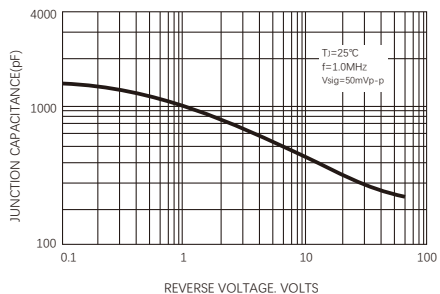


FIG.5-TYPICAL JUNCTION CAPACITANCE



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