

### 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



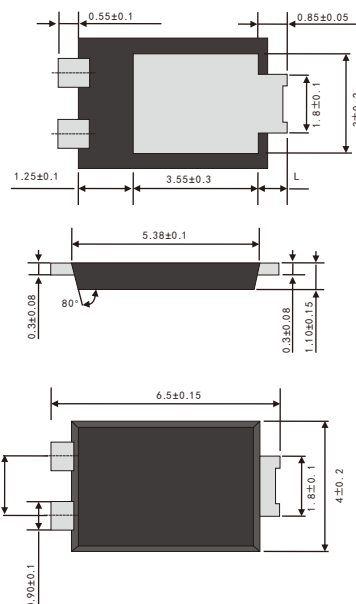
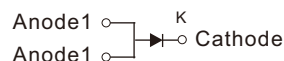
### MECHANICAL DATA

- 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)

### TYPICAL APPLICATIONS

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

### TO-277



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS

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

| Parameter                                                                                                        | Symbol      | Value       | Unit |
|------------------------------------------------------------------------------------------------------------------|-------------|-------------|------|
| Maximum repetitive peak reverse voltage                                                                          | $V_{RRM}$   | 200         | V    |
| Maximum average forward rectified current                                                                        | $I_{F(AV)}$ | 10.0        | A    |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated $T_J$ ) | $I_{FSM}$   | 150         | A    |
| Operating junction temperature range                                                                             | $T_J$       | -55 to +150 | °C   |
| Storage temperature range                                                                                        | $T_{stg}$   | -55 to +150 | °C   |

# RATINGS AND CHARACTERISTIC OF SP10200

## ELECTRICAL CHARACTERISTICS (TA=25°C Unless otherwise noted)

| Parameter                    | Test Conditions |          | Symbol | TYP. | MAX. | Unit |
|------------------------------|-----------------|----------|--------|------|------|------|
| Instaneous forward voltage   | If=10.0A        | TA=25°C  | VF 1)  | 0.87 | 0.95 | V    |
|                              |                 | TA=100°C |        | 0.77 | —    |      |
|                              |                 | TA=125°C |        | 0.74 | —    |      |
|                              | If=2.0A         | TA=25°C  |        | 0.71 | —    |      |
|                              |                 | TA=100°C |        | 0.60 | —    |      |
|                              |                 | TA=125°C |        | 0.56 | —    |      |
| Reverse current              | VR=200V         | TA=25°C  | IR 2)  | 5    | 20   | μ A  |
|                              |                 | TA=100°C |        | —    | 0.5  | mA   |
|                              |                 | TA=125°C |        | —    | 1.5  |      |
| Typical junction capacitance | 4V, 1MHz        |          | CJ     | 170  |      | 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 3) | RθJA   | 60.0   | °C/W |
|                               | RθJL   | 3.0    |      |

3 Units mounted on recommended PCB 1 oz. Pad layout

## AVAILABALE 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) |
|----------------|------|----------------|---------------------|---------------------|---------------------|------------------------|-----------------------|
| SP10200-TO-277 | T/R  | φ 330          | 5000                | 338×338×40          | 2                   | 365×365×360            | 7                     |

# RATINGS AND CHARACTERISTIC OF SP10200

FIG.1-FORWARD CURRENT DERATING CURVE

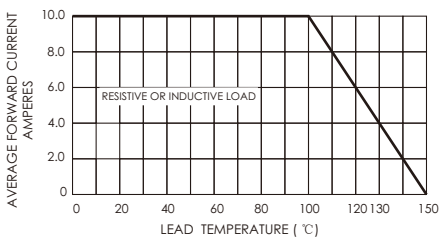


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

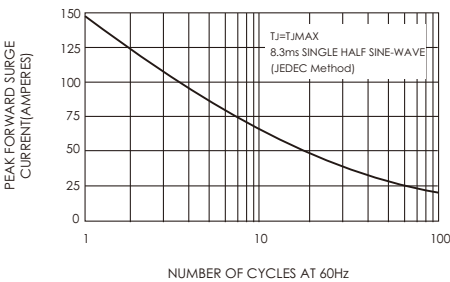


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

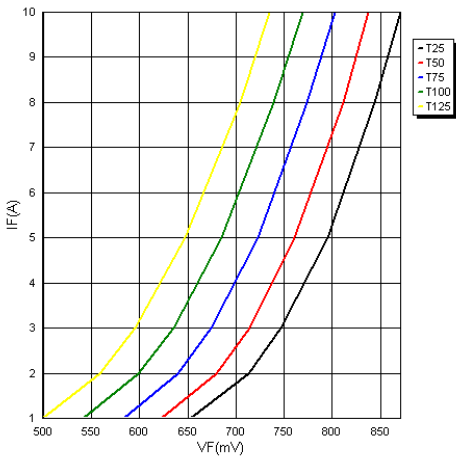


FIG.4-TYPICAL REVERSE CHARACTERISTICS

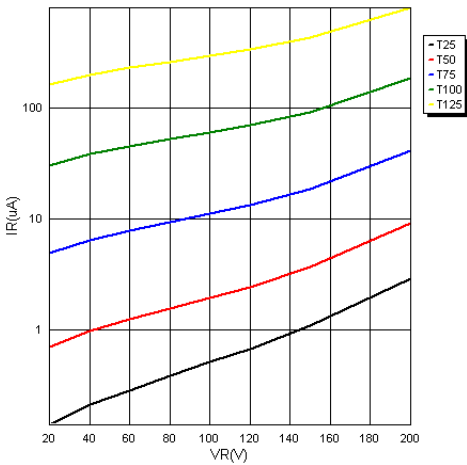


FIG.5-TYPICAL JUNCTION CAPACITANCE

