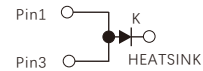
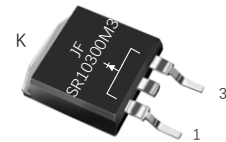


Features

- 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
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



TO-252
SR10300M3



Mechanical Data

- Case: JEDEC TO-252 molded plastic body
- Terminals: Lead solderable per MIL-STD-750,method 2026
- Polarity: As marked
- Mounting Position: Any

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)

| PRIMARY CHARACTERISTICS | |
|-------------------------|-------|
| $I_{F(AV)}$ | 10.0A |
| V_{RRM} | 300V |
| I_{FSM} | 150A |
| V_F at $I_F=10A$ | 0.83V |
| T_{JMAX} | 150°C |

| Parameter | Symbol | Value | Unit |
|------------------------------------------------------------------------------------------------------------------|-------------|------------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 300 | V |
| Maximum average forward rectified current (see fig.1) | $I_{F(AV)}$ | 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 CHARACTERISTICS OF SR10300M3

Electrical Characteristics

($T_A=25^{\circ}\text{C}$ Unless otherwise noted.)

| Parameter | Test Conditions | | Symbol | Typ. | Max. | Unit |
|------------------------------|-------------------|---------------------------|---------------------|------|------|---------------|
| Instaneous forward voltage | If=10.0A | $T_A=25^{\circ}\text{C}$ | V_F ¹⁾ | 0.83 | 0.90 | V |
| | | $T_A=100^{\circ}\text{C}$ | | 0.73 | - | |
| | | $T_A=125^{\circ}\text{C}$ | | 0.70 | - | |
| | If=5.0A | $T_A=25^{\circ}\text{C}$ | | 0.76 | 0.84 | |
| | | $T_A=100^{\circ}\text{C}$ | | 0.66 | - | |
| | | $T_A=125^{\circ}\text{C}$ | | 0.63 | - | |
| Reverse current | $V_R=300\text{V}$ | $T_A=25^{\circ}\text{C}$ | I_R ²⁾ | 0.5 | 5 | μA |
| | | $T_A=100^{\circ}\text{C}$ | | - | 0.3 | mA |
| | | $T_A=125^{\circ}\text{C}$ | | - | 1.0 | |
| Typical junction capacitance | 4V,1MHz | | C_j | 175 | | pF |

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

2.Pulse test: pulse width \leq 40ms

Thermal Characteristics

| Parameter | Symbol | TO-252 | Unit |
|------------------------------------------|-----------------------|--------|-----------------------------|
| Typical thermal resistance ³⁾ | $R_{\theta\text{JC}}$ | 2.5 | $^{\circ}\text{C}/\text{W}$ |

3.Thermal resistance from junction to case

Available Pack Information

| Product code | Package | Box Size L×W×H(mm) | Quantity(pcs/box) | Carton SizeL×W×H(mm) | Quantity(box/carton) |
|------------------|------------------|--------------------|-------------------|----------------------|----------------------|
| SR10300M3-TO-252 | P/T | 558×148×38 | 4000 | 565×225×170 | 5 |
| SR10300M3-TO-252 | Tape & reel(13") | 346×346×23 | 2500 | 364×364×250 | 10 |

Fig.1-Forward Current Derating Curve

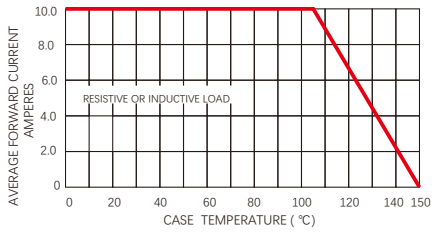


Fig.2-Maximum Non-repetitive Peak Forward Surge Current

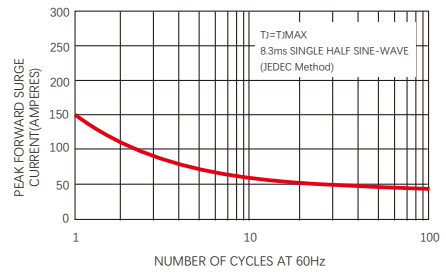


Fig.3-Typical Instantaneous Forward Characteristics

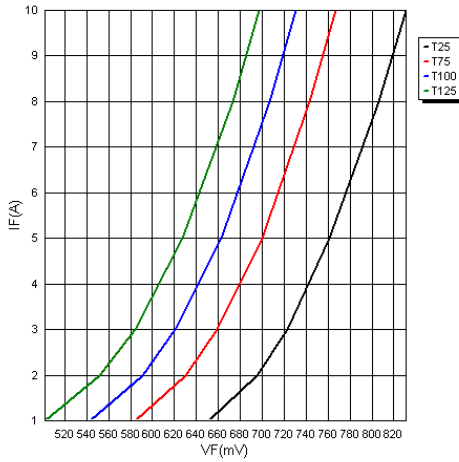


Fig.4-Typical Reverse Characteristics

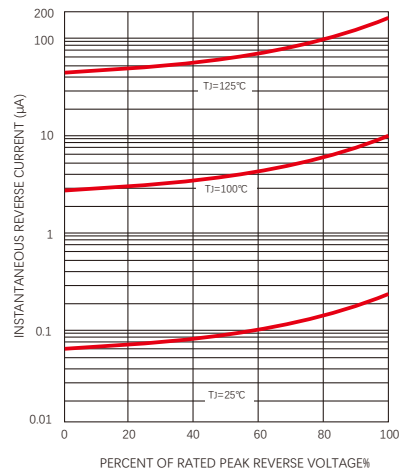
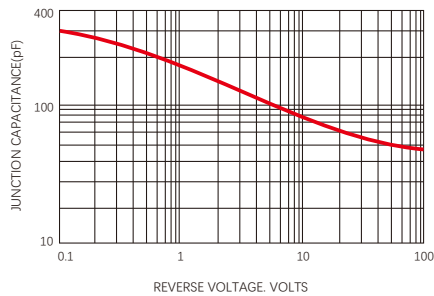
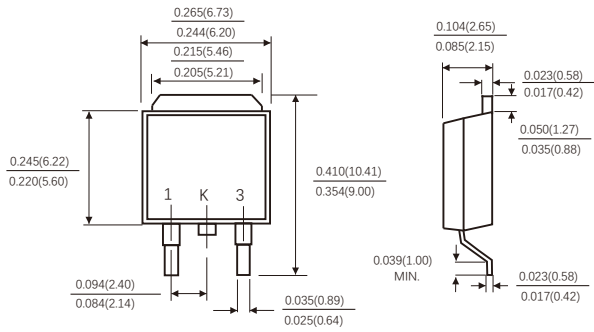


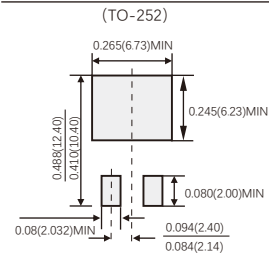
Fig.5-Typical Junction Capacitance



TO-252



Suggested Pad Layout



Dimensions in inches and (millimeters)

Friendship Reminder

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