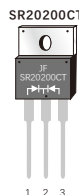


FEATURES

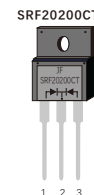
- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Per J-STD-020,LF MAX peak of 260°C (for TO-263 package)
- Solder bath temperature 275°C maximum, 10s, per JESD22-B106 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2015/863/EU



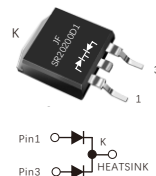
TO-220AB



ITO-220AB



TO-263
SR20200D1



MECHANICAL DATA

- Case: JEDEC TO-220AB、ITO-220AB、TO-263
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

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} | 200 | V |
| Maximum average forward rectified current (see fig.1) | Per leg | $I_{F(AV)}$ | 10.0 | A |
| | Total device | | 20.0 | |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL) | | I_{FSM} | 200 | A |
| Peak repetitive reverse current per diode at $t_p=2\mu s$ 1KHz | | I_{RRM} | 0.5 | A |
| Operating junction and Storage temperature range | | T_J, T_{stg} | -55 to +175 | °C |
| Isolation voltage(ITO-220AB only)from terminals to heatsink $t=1$ min | | V_{AC} | 1500 | V |

PRIMARY CHARACTERISTICS

| | |
|-------------------------------|-------------------------------|
| $I_r(AV)$ | 2×10A |
| V_{RRM} | 200V |
| I_{FSM} | 200A |
| V_f at $I_f=10.0A$,Per leg | 0.83V |
| I_r | 1μA |
| $T_J(MAX)$ | 175°C |
| Package | TO-220AB, ITO-220AB, TO-263AB |
| Diode variations | Common cathode |

ELECTRICAL CHARACTERISTICS (Per leg, $T_A=25^{\circ}\text{C}$ Unless otherwise noted)

| Parameter | Test Conditions | | Symbol | TYP. | MAX. | Unit |
|-------------------------------|-------------------------------|---------------------------|---------------------|------|------|---------------|
| Instantaneous forward voltage | Per leg $I_F=10.0\text{A}$ | $T_A=25^{\circ}\text{C}$ | V_F ¹⁾ | 0.86 | 0.95 | V |
| | | $T_A=100^{\circ}\text{C}$ | | 0.76 | - | |
| | | $T_A=125^{\circ}\text{C}$ | | 0.72 | - | |
| | Per leg $I_F=5.0\text{A}$ | $T_A=25^{\circ}\text{C}$ | | 0.78 | 0.85 | |
| | | $T_A=100^{\circ}\text{C}$ | | 0.67 | - | |
| | | $T_A=125^{\circ}\text{C}$ | | 0.63 | - | |
| Reverse current | $V_R=200\text{V}$ | $T_A=25^{\circ}\text{C}$ | I_R ²⁾ | 1 | 5 | μA |
| | | $T_A=100^{\circ}\text{C}$ | | - | 1 | mA |
| | | $T_A=125^{\circ}\text{C}$ | | - | 3 | |
| Typical junction capacitance | 4V,1MHz | | C_j | 137 | | pF |

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

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

THERMAL CHARACTERISTICS

| Parameter | Symbol | SR20200CT | SFR20200CT | SR20200D1 | Unit |
|--|-----------------------|-----------|------------|-----------|-----------------------------|
| Typical thermal resistance ³⁾ | $R_{\theta\text{JC}}$ | 1.3 | 3.2 | 1.3 | $^{\circ}\text{C}/\text{W}$ |

3.Thermal resistance from junction to case,Total device

AVAILABLE PACK INFORMATION

| Product code | Pack | Carton Size L×W×H(mm) | Inner Box Size L×W×H(mm) | Tube Length (mm) | Inner Box Number | Tube Number Per A Inner Box | Part Number Per A Tube | Quantity(carton) (K) |
|----------------------|------|--------------------------|-----------------------------|-----------------------|---------------------|--------------------------------|---------------------------|-------------------------|
| SR20200CT-TO-220AB | Tube | 565×225×170 | 548×151×37 | 540 | 5 | 20 | 50 | 5 |
| SFR20200CT-ITO-220AB | Tube | 565×225×170 | 548×151×37 | 540 | 5 | 20 | 50 | 5 |
| SR20200D1-TO-263 | Tube | 565×225×170 | 548×151×37 | 538 | 5 | 20 | 50 | 5 |
| Product code | Pack | Carton Size L×W×H(mm) | Inner Box Size L×W×H(mm) | Reel Diameter (mm) | Inner Box Number | Reel Number Per A Inner Box | Part Number Per A Reel | Quantity(carton) (K) |
| SR20200D1-TO-263 | Reel | 364×364×235 | 330×330×38 | $\phi 330$ | 5 | 1 | 800 | 4 |

FIG.1-FORWARD CURRENT DERATING CURVE

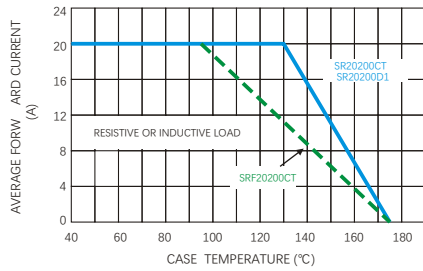


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

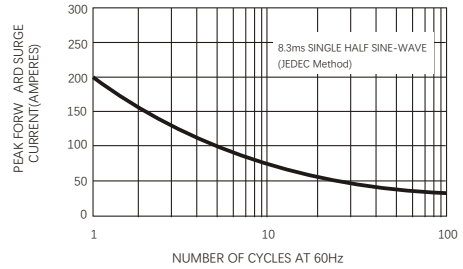


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

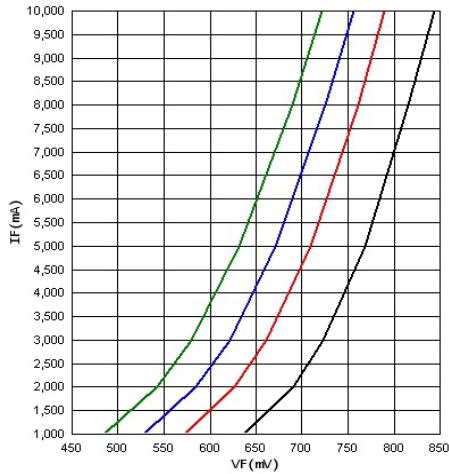


FIG.4-TYPICAL REVERSE CHARACTERISTICS

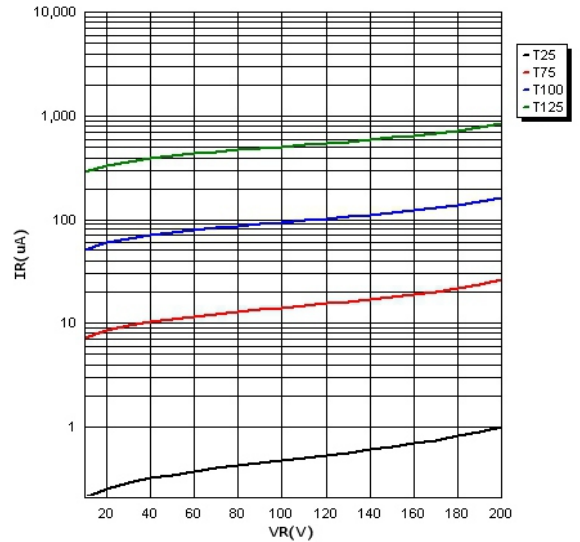
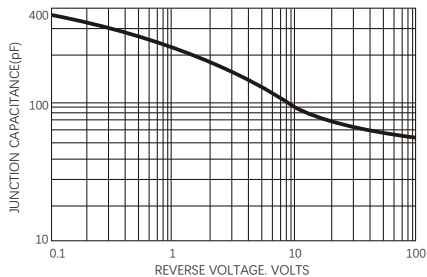


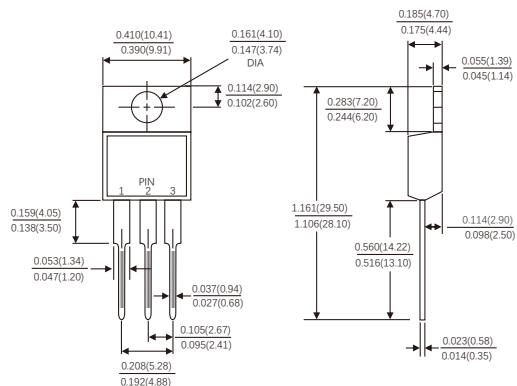
FIG.5-TYPICAL JUNCTION CAPACITANCE



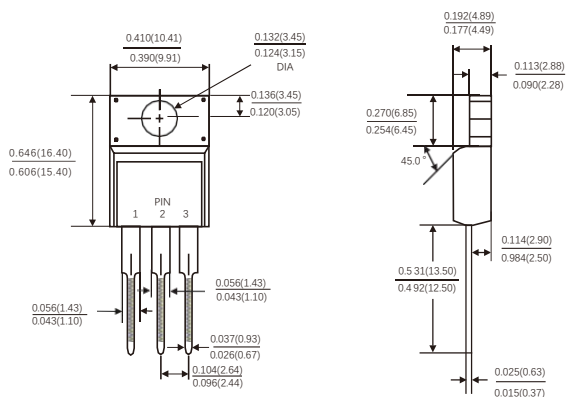
PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

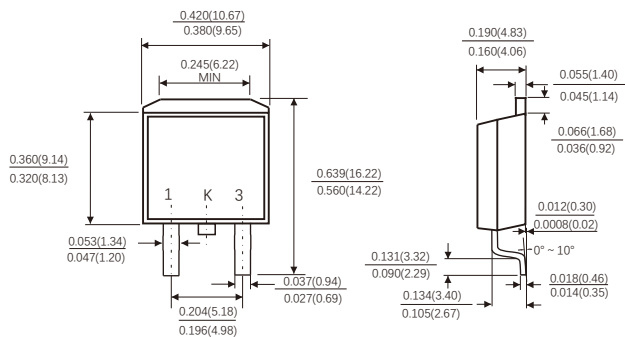
TO-220AB



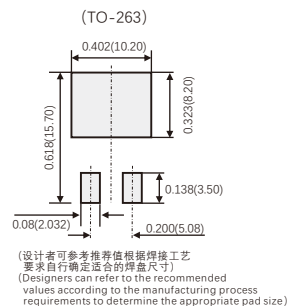
ITO-220AB



TO-263



Suggested Pad Layout



Friendship Reminder

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