

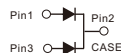
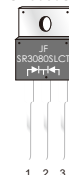
### FEATURES

- 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
- Meets MSL Level 1, per J-STD-020, LF MAX peak of 245°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 2011/65/EU



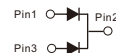
TO-220AB

SR3080SLCT



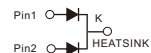
ITO-220AB

SRF3080SLCT



TO-263

SR3080SLD1



### 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                            | SR3080SLCT, SRF3080SLCT,SR3080SLD1 | Unit |
|---|-----------------------------------|------------------------------------|------|
| Maximum repetitive peak reverse voltage   | V <sub>RRM</sub>                  | 80                                 | V    |
| Maximum average forward rectified current (see fig.1)   | I <sub>F(AV)</sub>                | Per leg                            | 15.0 |
|   |                                   | Total device                       | 30.0 |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated T <sub>L</sub> ) | I <sub>FSM</sub>                  | 250                                | A    |
| Peak repetitive reverse current per diode at t <sub>p</sub> =2 μs 1KHz  | I <sub>RRM</sub>                  | 0.5                                | A    |
| Operating junction and Storage temperature range  | T <sub>J</sub> , T <sub>stg</sub> | -55 to+150                         | °C   |
| Isolation voltage (ITO-220AB only) from terminals to heatsink t=1 min   | V <sub>AC</sub>                   | 1500                               | V    |

| PRIMARY CHARACTERISTICS                               |                            |
|---|----------------------------|
| I <sub>F(AV)</sub>                                    | 2×15A                      |
| V <sub>RRM</sub>                                      | 80V                        |
| I <sub>FSM</sub>                                      | 250A                       |
| V <sub>F</sub> at I <sub>F</sub> =15.0A,Per leg,125°C | 0.49V                      |
| I <sub>r</sub>  | 50 μ A                     |
| T <sub>J</sub> (MAX)                                  | 150°C                      |
| Package   | TO-220AB,ITO-220AB, TO-263 |
| Diode variations                                      | Common cathode             |

## RATINGS AND CHARACTERISTIC OF SR3080SLCT,SRF3080SLCT,SR3080SLD1

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

| Parameter                     | Test Conditions       |                       | Symbol                       | TYP. | MAX. | Unit |
|-------------------------------|-----------------------|-----------------------|------------------------------|------|------|------|
| Instantaneous forward voltage | T <sub>A</sub> =25°C  | I <sub>F</sub> =3.0A  | V <sub>F</sub> <sup>1)</sup> | 0.40 | –    | V    |
|                               |                       | I <sub>F</sub> =5.0A  |                              | 0.43 | –    |      |
|                               |                       | I <sub>F</sub> =15.0A |                              | 0.54 | 0.60 |      |
|                               | T <sub>A</sub> =125°C | I <sub>F</sub> =3.0A  |                              | 0.28 | –    |      |
|                               |                       | I <sub>F</sub> =5.0A  |                              | 0.33 | –    |      |
|                               |                       | I <sub>F</sub> =15.0A |                              | 0.49 | –    |      |
| Reverse current               | V <sub>R</sub> =80V   | T <sub>A</sub> =25°C  | I <sub>R</sub> <sup>2)</sup> | 50   | 100  | μA   |
|                               |                       | T <sub>A</sub> =100°C |                              | 10   | –    | mA   |
|                               |                       | T <sub>A</sub> =125°C |                              | 40   | –    |      |
| Typical junction capacitance  | 4V, 1MHz              |                       | C <sub>J</sub>               | 1400 |      | pF   |

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

2.Pulse test: pulse width ≤ 40ms

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

| Parameter                                | Symbol           | SR3080SLCT | SRF3080SLCT | SR3080SLD1 | Unit |
|--|------------------|------------|-------------|------------|------|
| Typical thermal resistance <sup>3)</sup> | R <sub>θJC</sub> | 2.5        | 4.5         | 2.5        | °C/W |

3.Thermal resistance from junction to case

### AVAILABLE PACK INFORMATION

| Product code          | Pack | Box Size L×W×H(mm) | Quantity (pcs/box) | Carton Size L×W×H(mm) | Quantity (box/carton) |
|-----------------------|------|--------------------|--------------------|-----------------------|-----------------------|
| SR3080SLCT-TO-220AB   | P/T  | 558×148×38         | 1000               | 565×225×170           | 5                     |
| SRF3080SLCT-ITO-220AB | P/T  | 558×148×38         | 1000               | 565×225×170           | 5                     |
| SR3080SLD1-TO-263     | P/T  | 558×148×38         | 1000               | 565×225×170           | 5                     |

# RATINGS AND CHARACTERISTIC OF SR3080SLCT,SRF3080SLCT,SR3080SLD1

FIG.1-FORWARD CURRENT DERATING CURVE

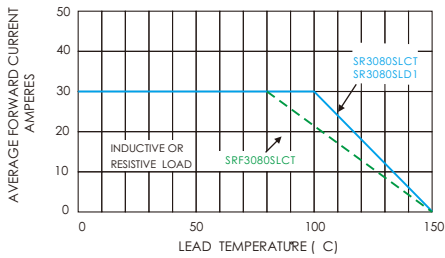


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

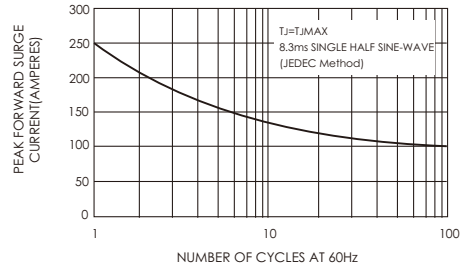


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

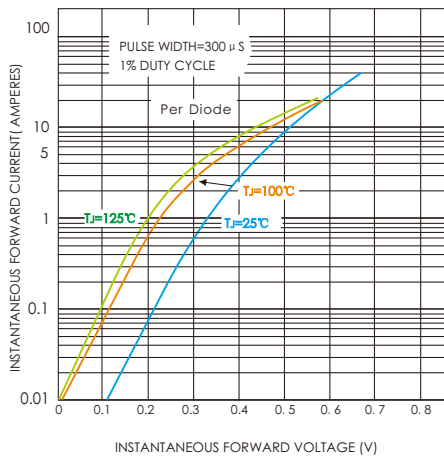


FIG.4-TYPICAL REVERSE CHARACTERISTICS

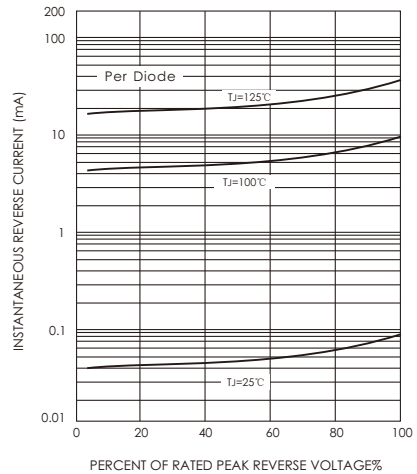
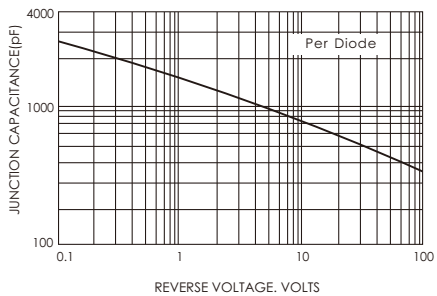
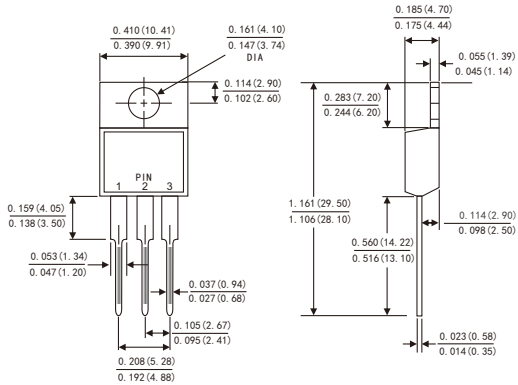


FIG.5-TYPICAL JUNCTION CAPACITANCE

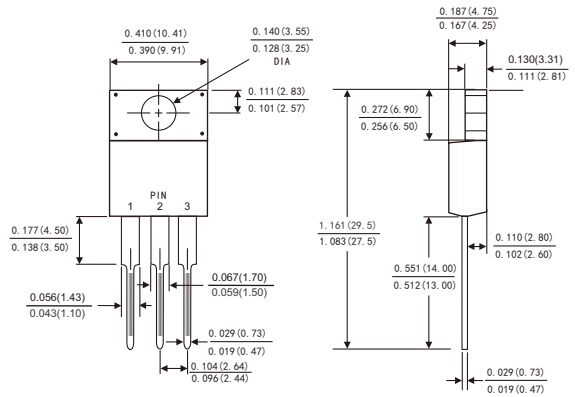


# PACKAGE OUTLINE DIMENSIONS

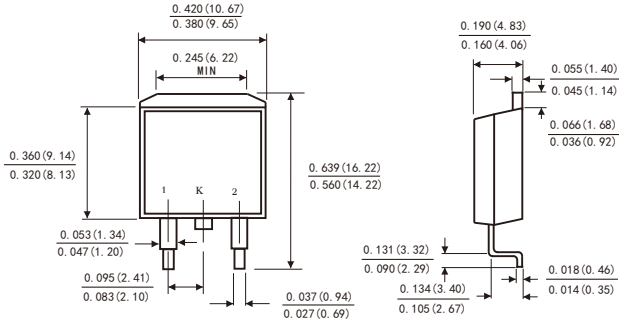
## TO-220AB



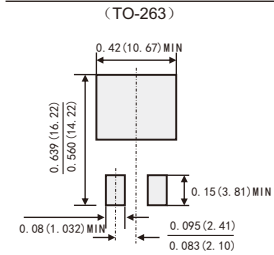
## ITO-220AB



## TO-263



## Suggested Pad Layout



Dimensions in inches and (millimeters)