

FEATURES

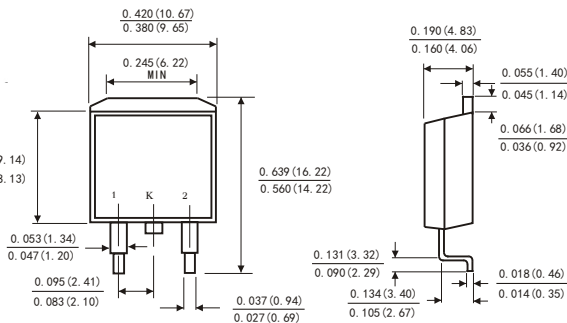
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
Component in accordance to RoHS 2011/65/EU and
WEEE 2012/19/EU



TO-263
D²PAK

MECHANICAL DATA

- Case: JEDEC TO-263 molded plastic body
- Terminals: Solderable per MIL-STD-202,method 208
- Polarity: As marked
- Mounting Position: Any



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} | 45V |
| I _{FSM} | 150A |
| V _F at I _F =5.0A (125°C) | 0.33V |
| T _{JMAX} | 150°C |

| Parameter | Symbol | SR1045LD1 | Unit |
|--|------------------|------------|------|
| Maximum repetitive peak reverse voltage | V _{RRM} | 45 | V |
| Maximum average forward rectified current(see fig.1) | Per leg | 5.0 | A |
| | Total device | 10.0 | |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL) | 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 SR1045LD1

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

| Parameter | Test Conditions | | Symbol | TYP. | MAX. | Unit |
|-------------------------------|---------------------------------|-----------------------|------------------------------|------|------|------|
| Instantaneous forward voltage | Per leg I _F =5.0A | T _A =25°C | V _F ¹⁾ | 0.43 | 0.45 | V |
| | | T _A =100°C | | 0.35 | 0.37 | |
| | | T _A =125°C | | 0.33 | 0.35 | |
| Reverse current | V _R =45V | T _A =25°C | I _R ²⁾ | 110 | 200 | μA |
| | | T _A =100°C | | 10 | 20 | mA |
| | | T _A =125°C | | 70 | 140 | |
| Typical junction capacitance | 4V, 1MHz | | C _J | 370 | | pF |

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

2.Pulse test: pulse width≤40ms

THERMAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

| Parameter | Symbol | SR1045LD1 | Unit |
|--|------------------|-----------|------|
| Typical thermal resistance ³⁾ | R _{θJC} | 2.5 | °C/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) |
|------------------|---------|--------------------|--------------------|----------------------|-----------------------|
| SR1045LD1-TO-263 | P/T | 558×148×38 | 1000 | 565×225×170 | 5 |

RATINGS AND CHARACTERISTIC CURVES SR1045LD1

FIG.1-FORWARD CURRENT DERATING CURVE

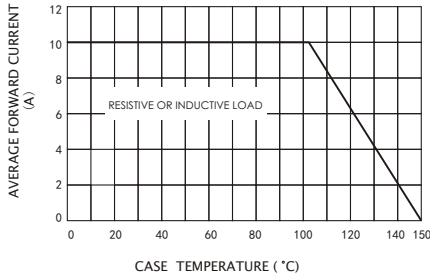


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

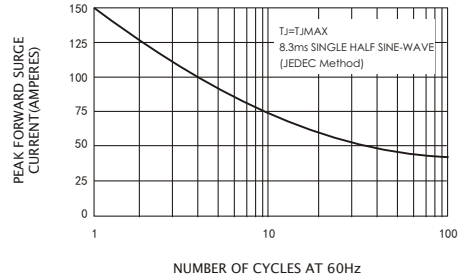


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

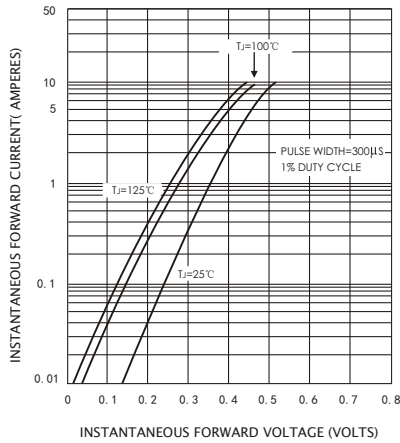


FIG.4-TYPICAL REVERSE CHARACTERISTICS

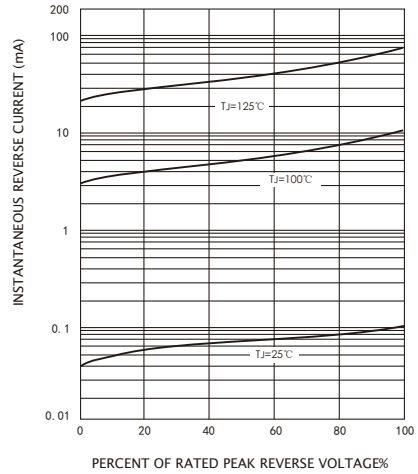


FIG.5-TYPICAL JUNCTION CAPACITANCE

