



THE DATASHEET OF 90SQ035



90SQ035/90SQ040/90SQ045 SCHOTTKY RECTIFIER

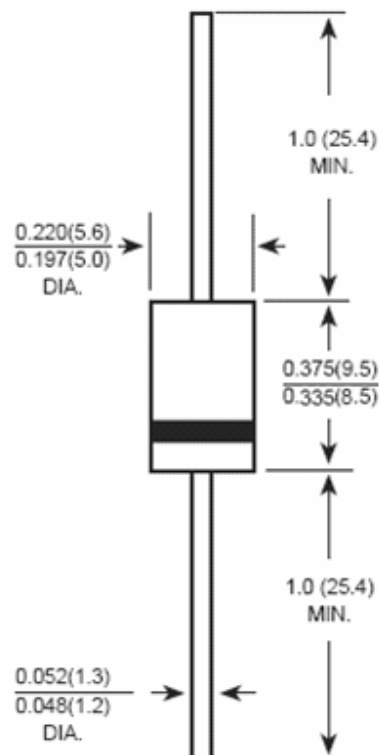
Applications:

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 150 °C T_J operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

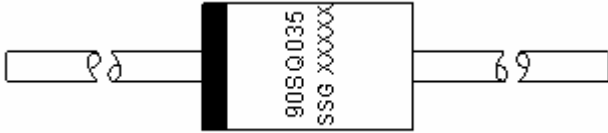
Mechanical Dimensions: In Inches / mm



DO-201AD



Marking Diagram:



Where XXXXX is YYWWL

90SQ035 = Part Name
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Cautions : Molding resin
Epoxy resin UL:94V-0

Ordering Information:

| Device | Package | Shipping |
|---------|-----------------------|----------------|
| 90SQ035 | DO-201AD (Pb-Free) | 1250pcs / tape |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.



Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|---|---|-------|
| Peak Inverse Voltage | V_{RWM} | - | 35(90SQ035) 40(90SQ040) 45(90SQ045) | V |
| Max. Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 69^\circ\text{C}$, rectangular wave form | 9 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 400 | A |
| Non-Repetitive Avalanche Energy(peg leg) | E_{AS} | $T_J = 25^\circ\text{C}$, $I_{AS} = 1.8\text{A}$, $L = 7.4\text{mH}$ | 12 | mJ |
| Repetitive Avalanche Current(peg leg) | I_{AR} | Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical | 1.8 | A |

Electrical Characteristics:

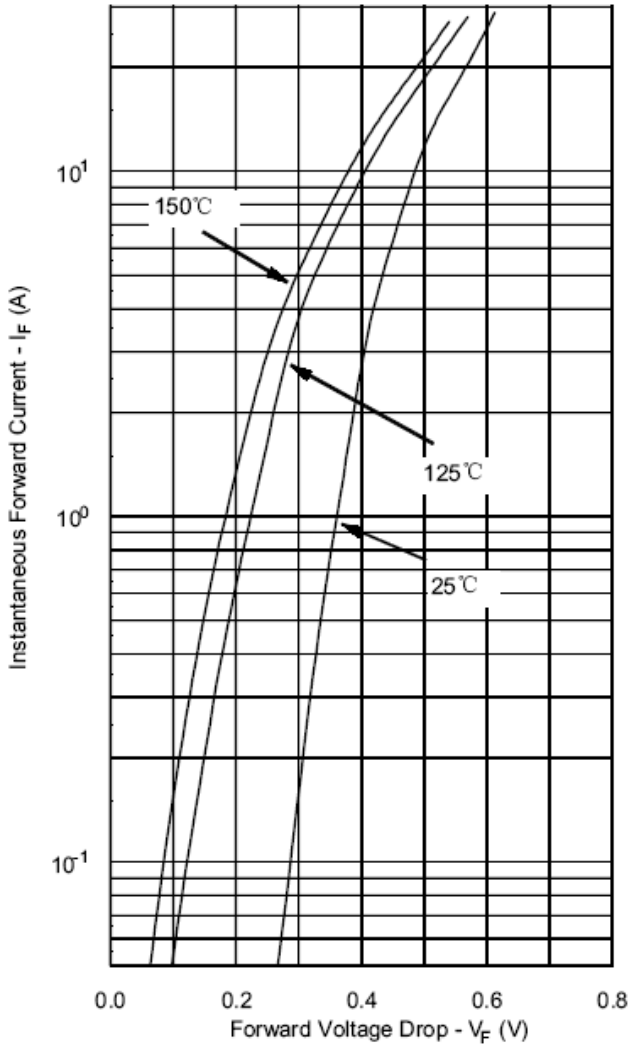
| Characteristics | Symbol | Condition | Max. | Units |
|---------------------------------------|----------|---|--------------|-------|
| Max. Forward Voltage Drop (per leg) * | V_{F1} | @ 9A, Pulse, $T_J = 25^\circ\text{C}$ @ 18A, Pulse, $T_J = 25^\circ\text{C}$ | 0.48 0.57 | V |
| | V_{F2} | @ 9A, Pulse, $T_J = 125^\circ\text{C}$ @ 18A, Pulse, $T_J = 125^\circ\text{C}$ | 0.42 0.52 | V |
| Max. Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated VR}$ $T_J = 25^\circ\text{C}$ | 1.75 | mA |
| | I_{R2} | @ $V_R = \text{rated VR}$ $T_J = 125^\circ\text{C}$ | 70 | mA |
| Max. Junction Capacitance (per leg) | C_T | @ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ | 900 | pF |
| Typical Series Inductance (per leg) | L_S | Measured lead to lead 5 mm from package body | 10 | nH |
| Max. Voltage Rate of Change | dv/dt | - | 10,000 | V/ s |

* Pulse Width < 300 μs , Duty Cycle < 2%

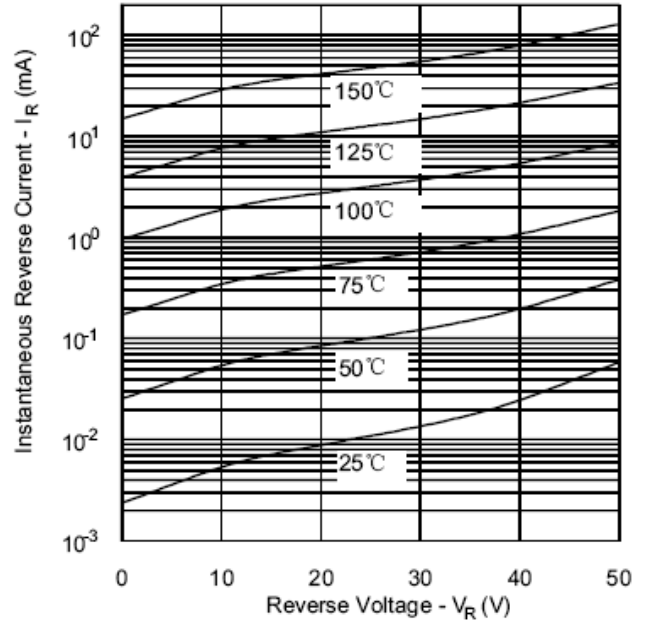
Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------|--------------------------------------|---------------|--------------------|
| Max. Junction Temperature | T_J | - | -55 to +150 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -55 to +150 | $^\circ\text{C}$ |
| Maximum Thermal Resistance Junction to Lead (per leg) | $R_{\theta JL}$ | DC operation | 8.0 | $^\circ\text{C/W}$ |
| Maximum Thermal Resistance Junction to Air | $R_{\theta JA}$ | Mounting surface, smooth and greased | 44 | $^\circ\text{C/W}$ |
| Approximate Weight | wt | - | 1.02 | g |
| Case Style | DO-201AD | | | |

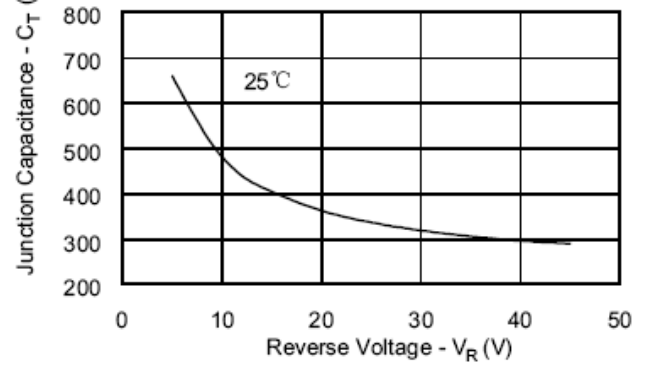
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance







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