

Silicon Standard Recovery Diode

$V_{RRM} = 600\text{ V} - 1200\text{ V}$

$I_F = 320\text{ A}$

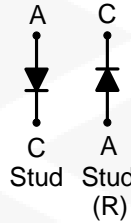
Features

- High Surge Capability
- Types from 600 V to 1200 V V_{RRM}
- Not ESD Sensitive

Note:

1. Standard polarity: Stud is cathode.
2. Reverse polarity (R): Stud is anode.
3. Stud is base.

DO-9 Package



Maximum ratings, at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified ("R" devices have leads reversed)

| Parameter | Symbol | Conditions | S320J (R) | S320K (R) | S320M (R) | S320Q (R) | Unit |
|--|------------|--|------------|------------|------------|------------|------------------|
| Repetitive peak reverse voltage | V_{RRM} | | 600 | 800 | 1000 | 1200 | V |
| RMS reverse voltage | V_{RMS} | | 420 | 566 | 707 | 848 | V |
| DC blocking voltage | V_{DC} | | 600 | 800 | 1000 | 1200 | V |
| Continuous forward current | I_F | $T_C \leq 100\text{ }^\circ\text{C}$ | 320 | 320 | 320 | 320 | A |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ }^\circ\text{C}$, $t_p = 8.3\text{ ms}$ | 4700 | 4700 | 4700 | 4700 | A |
| Operating temperature | T_j | | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | | -55 to 150 | -55 to 150 | -55 to 150 | -55 to 150 | $^\circ\text{C}$ |

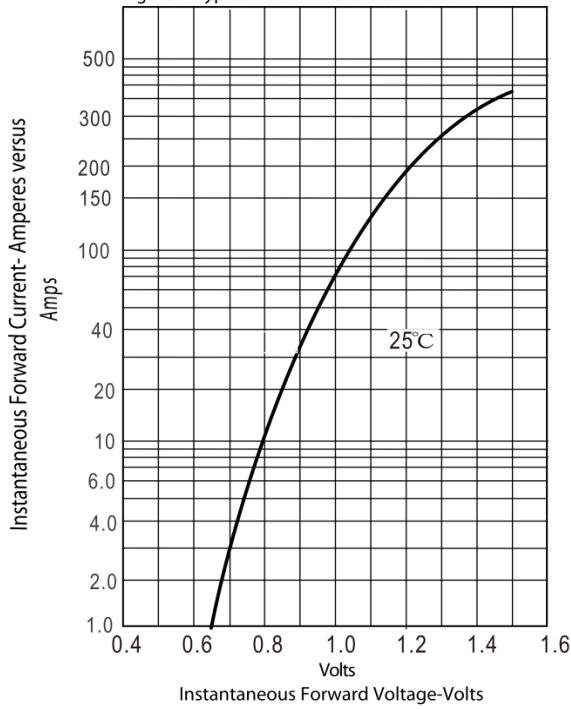
Electrical characteristics, at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Conditions | S320J (R) | S320K (R) | S320M (R) | S320Q (R) | Unit |
|-----------------------|--------|--|-----------|-----------|-----------|-----------|---------------|
| Diode forward voltage | V_F | $I_F = 300\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$ | 1.2 | 1.2 | 1.2 | 1.2 | V |
| Reverse current | I_R | $V_R = 600\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$ | 10 | 10 | 10 | 10 | μA |
| | | $V_R = 600\text{ V}$, $T_j = 175\text{ }^\circ\text{C}$ | 12 | 12 | 12 | 12 | mA |

Thermal characteristics

| | | | | | | | |
|-------------------------------------|------------|--|------|------|------|------|--------------------|
| Thermal resistance, junction - case | R_{thJC} | | 0.16 | 0.16 | 0.16 | 0.16 | $^\circ\text{C/W}$ |
|-------------------------------------|------------|--|------|------|------|------|--------------------|

Figure.1-Typical Forward Characteristics



Figur.2-Forward Derating Curve

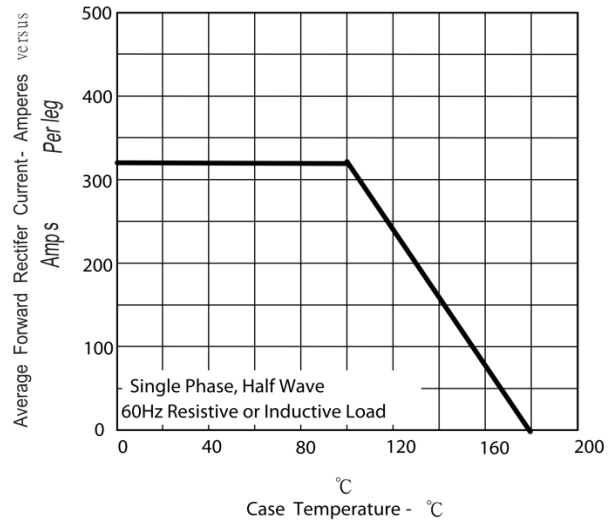
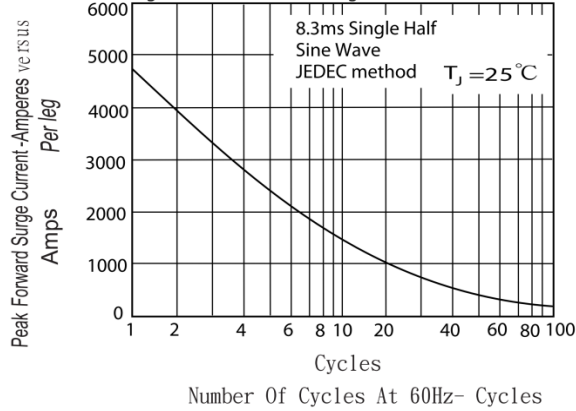
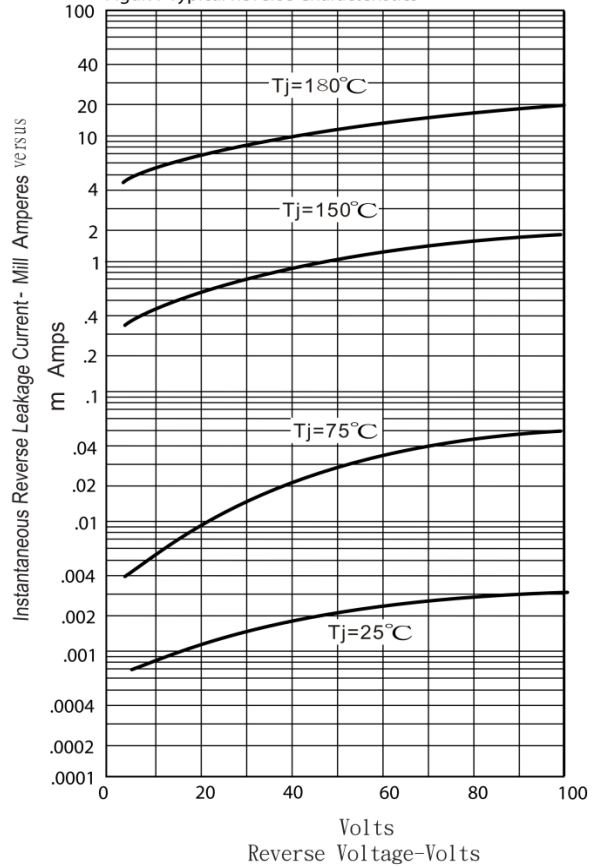


Figure.3-Peak Forward Surge Current

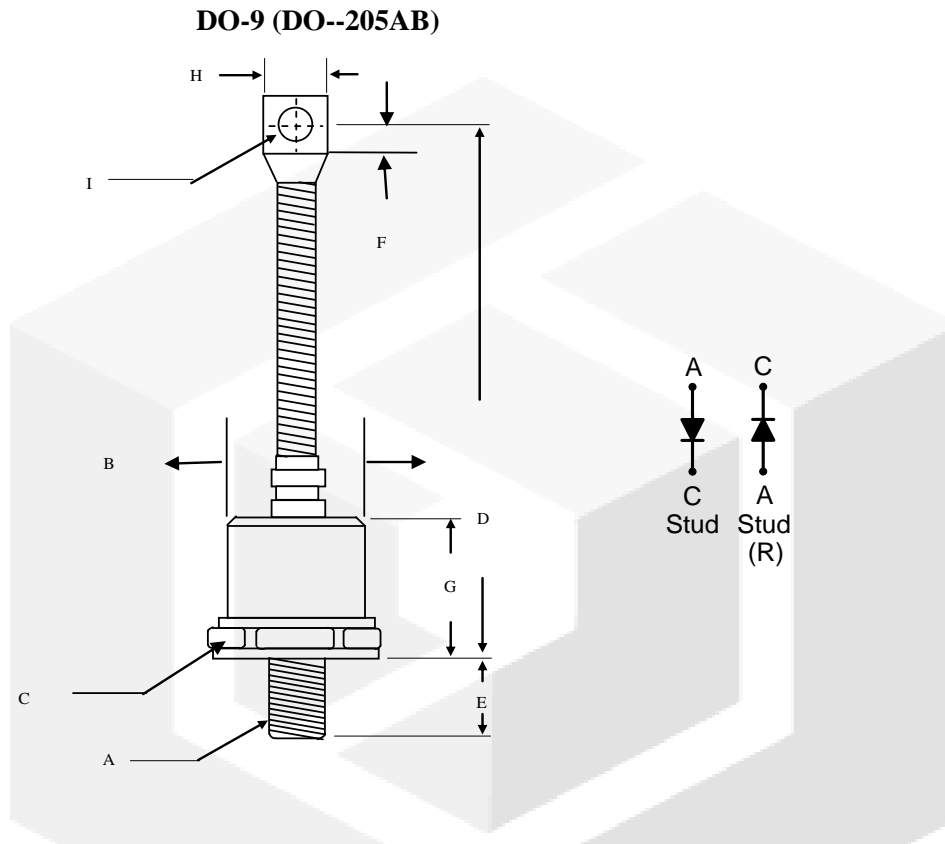


Figur.4-Typical Reverse Characteristics



Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.



| | Inches | | Millimeters | |
|---|--------------|-------|-------------|-------|
| | Min | Max | Min | Max |
| A | 3/4 - 16 UNF | | | |
| B | ----- | 1.10 | ----- | 27.94 |
| C | 1.24 | 1.25 | 31.5 | 31.90 |
| D | ----- | 7.48 | ----- | 190.0 |
| E | 0.78 | 0.828 | 19.60 | 21.03 |
| F | 0.470 | 0.530 | 11.94 | 13.46 |
| G | ----- | 1.122 | ----- | 28.5 |
| H | ----- | 0.787 | ----- | 20.0 |
| I | 0.330 | 0.350 | 8.38 | 8.89 |

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