

## Silicon Standard Recovery Diode

$V_{RRM} = 800\text{ V} - 1600\text{ V}$

$I_F = 400\text{ A}$

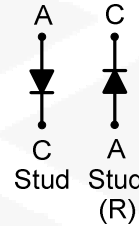
### Features

- High Surge Capability
- Types from 800 V to 1600 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                                                 | S400K (R)  | S400Q (R)  | S400Y (R)  | Unit               |
|------------------------------------------------------|------------|------------------------------------------------------------|------------|------------|------------|--------------------|
| Repetitive peak reverse voltage                      | $V_{RRM}$  |                                                            | 800        | 1200       | 1600       | V                  |
| RMS reverse voltage                                  | $V_{RMS}$  |                                                            | 566        | 848        | 1131       | V                  |
| DC blocking voltage                                  | $V_{DC}$   |                                                            | 800        | 1200       | 1600       | V                  |
| Continuous forward current                           | $I_F$      | $T_C \leq 120\text{ }^{\circ}\text{C}$                     | 400        | 400        | 400        | A                  |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ }^{\circ}\text{C}$ , $t_p = 8.3\text{ ms}$ | 8640       | 8640       | 8640       | A                  |
| Operating temperature                                | $T_j$      |                                                            | -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 | $^{\circ}\text{C}$ |

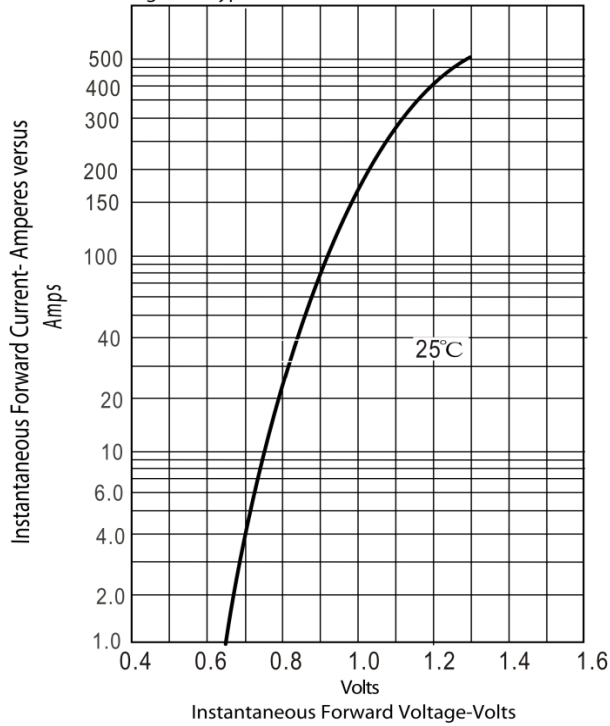
Electrical characteristics, at  $T_j = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

| Parameter             | Symbol | Conditions                                                | S400K (R) | S400Q (R) | S400Y (R) | Unit          |
|-----------------------|--------|-----------------------------------------------------------|-----------|-----------|-----------|---------------|
| Diode forward voltage | $V_F$  | $I_F = 400\text{ A}$ , $T_j = 25\text{ }^{\circ}\text{C}$ | 1.2       | 1.2       | 1.2       | V             |
| Reverse current       | $I_R$  | $V_R = 50\text{ V}$ , $T_j = 25\text{ }^{\circ}\text{C}$  | 10        | 10        | 10        | $\mu\text{A}$ |
|                       |        | $V_R = 50\text{ V}$ , $T_j = 175\text{ }^{\circ}\text{C}$ | 12        | 12        | 12        | mA            |

### Thermal characteristics

|                                     |            |  |      |      |      |                      |
|-------------------------------------|------------|--|------|------|------|----------------------|
| Thermal resistance, junction - case | $R_{thJC}$ |  | 0.14 | 0.14 | 0.14 | $^{\circ}\text{C/W}$ |
|-------------------------------------|------------|--|------|------|------|----------------------|

Figure.1-Typical Forward Characteristics



Figur.2-Forward Derating Curve

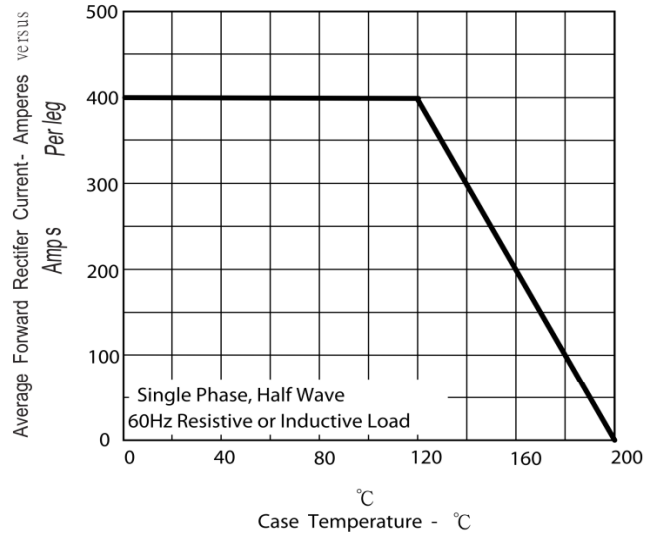
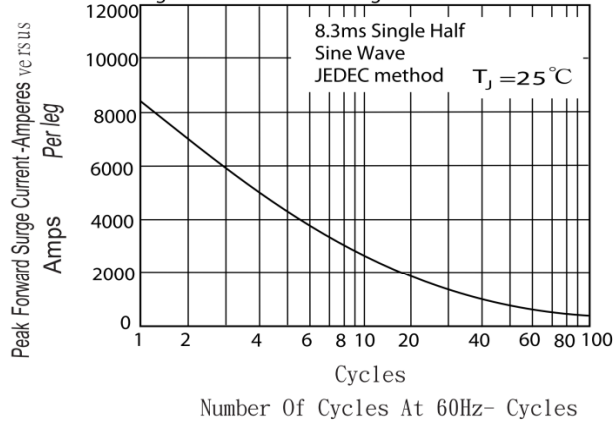
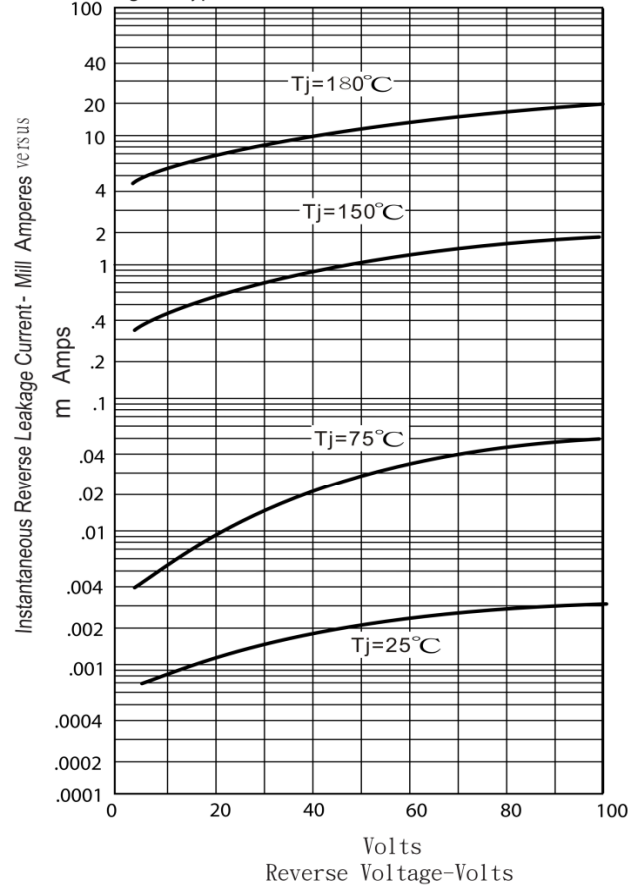


Figure.3-Peak Forward Surge Current



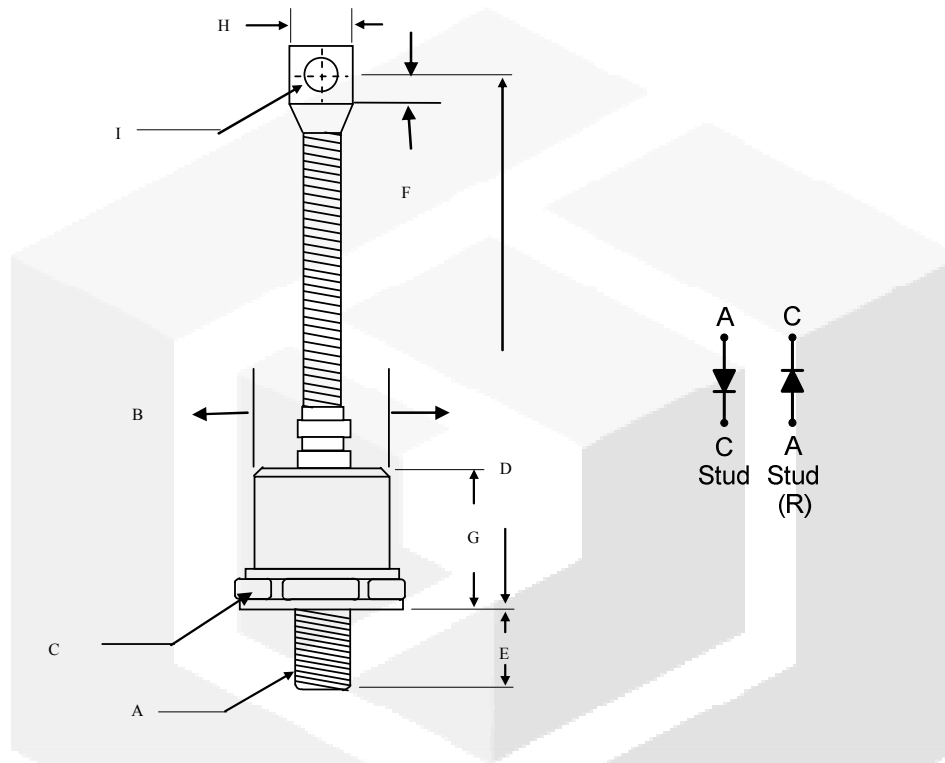
Figur.4-Typical Reverse Characteristics



## Package dimensions and terminal configuration

Product is marked with part number and terminal configuration.

**DO-9 (DO-205AB)**



|   | Inches       |       | Millimeters |       |
|---|--------------|-------|-------------|-------|
|   | Min          | Max   | Min         | Max   |
| A | M 20 * P 1.5 |       |             |       |
| B | -----        | 1.10  | -----       | 27.94 |
| C | 1.24         | 1.25  | 31.5        | 31.90 |
| D | 5.31         | 5.98  | 135         | 152   |
| 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  |