

Silicon Standard Recovery Diode

 $V_{RRM} = 50\text{ V} - 1200\text{ V}$
 $I_F = 12\text{ A}$

Features

- High Surge Capability
- Types up to 1200 V V_{RRM}

DO-4 Package


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

| Parameter | Symbol | Conditions | S12K (R) | S12M (R) | S12Q (R) | Unit |
|--|------------|--|------------|------------|------------|------|
| Repetitive peak reverse voltage | V_{RRM} | | 800 | 1000 | 1200 | V |
| RMS reverse voltage | V_{RMS} | | 560 | 700 | 840 | V |
| DC blocking voltage | V_{DC} | | 800 | 1000 | 1200 | V |
| Continuous forward current | I_F | $T_C \leq 144\text{ °C}$ | 12 | 12 | 12 | A |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ °C}$, $t_p = 8.3\text{ ms}$ | 280 | 280 | 280 | A |
| Operating temperature | T_j | | -65 to 175 | -65 to 175 | -65 to 175 | °C |
| Storage temperature | T_{stg} | | -65 to 200 | -65 to 200 | -65 to 200 | °C |

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

| Parameter | Symbol | Conditions | S12K (R) | S12M (R) | S12Q (R) | Unit |
|-----------------------|--------|---|----------|----------|----------|---------------|
| Diode forward voltage | V_F | $I_F = 12\text{ A}$, $T_j = 25\text{ °C}$ | 1.1 | 1.1 | 1.1 | V |
| Reverse current | I_R | $V_R = 50\text{ V}$, $T_j = 25\text{ °C}$ | 10 | 10 | 10 | μA |
| | | $V_R = 50\text{ V}$, $T_j = 175\text{ °C}$ | 12 | 12 | 12 | mA |

Thermal characteristics

| Parameter | Symbol | Conditions | S12K (R) | S12M (R) | S12Q (R) | Unit |
|-------------------------------------|------------|------------|----------|----------|----------|------|
| Thermal resistance, junction - case | R_{thJC} | | 2.50 | 2.50 | 2.50 | °C/W |

Figure .1-Typical Forward Characteristics

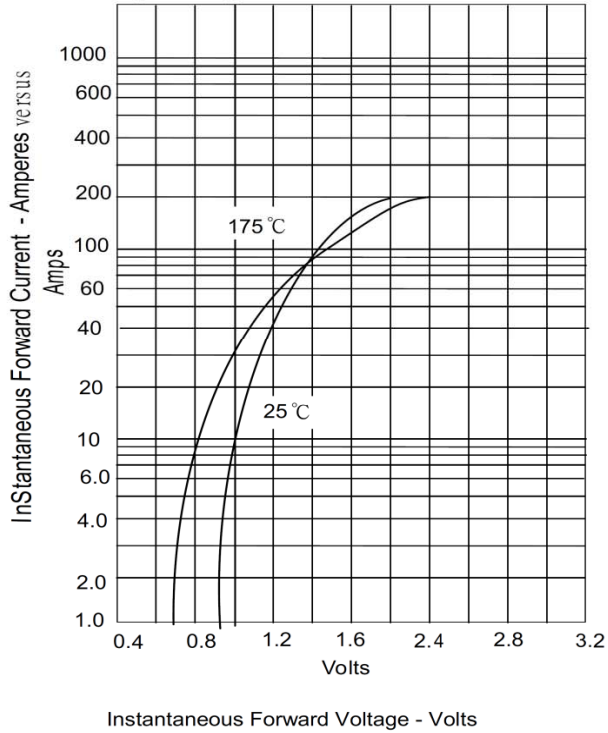


Figure .2-Forward Derating Curve

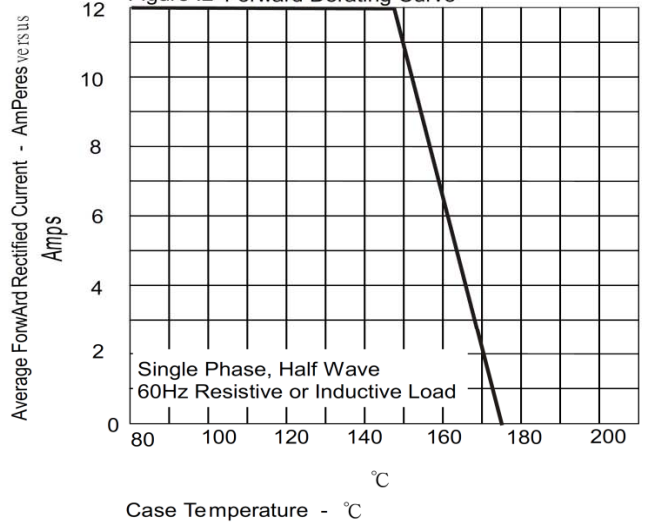


Figure .4-Typical Reverse Characteristics

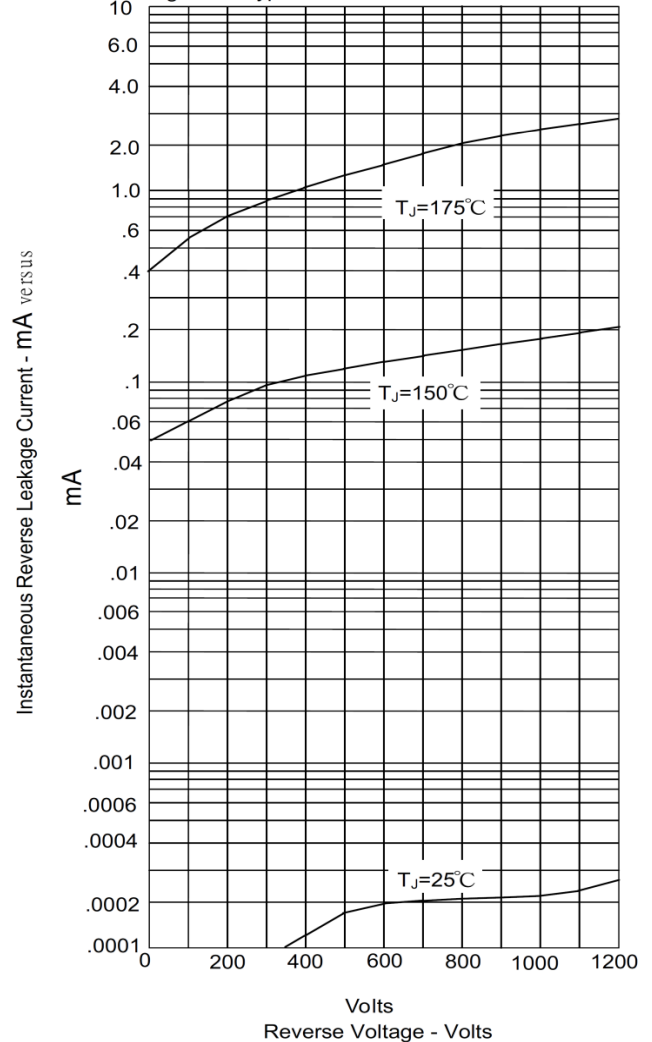


Figure .3-Peak Forward Surge Current

