

Silicon Fast Recovery Diode

$V_{RRM} = 800\text{ V} - 1000\text{ V}$

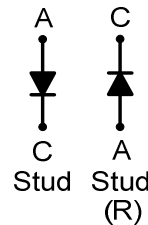
$I_F = 30\text{ A}$

Features

- High Surge Capability
- Types up to 1000 V V_{RRM}

Note:

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



DO-5 Package



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

| Parameter | Symbol | Conditions | FR30K(R)05 | FR30M(R)05 | Unit |
|--|------------|--|------------|------------|------------------|
| Repetitive peak reverse voltage | V_{RRM} | | 800 | 1000 | V |
| RMS reverse voltage | V_{RMS} | | 560 | 700 | V |
| DC blocking voltage | V_{DC} | | 800 | 1000 | V |
| Continuous forward current | I_F | $T_C \leq 100\text{ }^\circ\text{C}$ | 30 | 30 | A |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ }^\circ\text{C}$, $t_p = 8.3\text{ ms}$ | 300 | 300 | A |
| Operating temperature | T_j | | -40 to 125 | -40 to 125 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | | -40 to 150 | -40 to 150 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Conditions | FR30K(R)05 | FR30M(R)05 | Unit |
|-----------------------|--------|--|------------|------------|---------------|
| Diode forward voltage | V_F | $I_F = 30\text{ A}$, $T_j = 25\text{ }^\circ\text{C}$ | 1.4 | 1.4 | V |
| Reverse current | I_R | $V_R = 800\text{ V}$, $T_j = 25\text{ }^\circ\text{C}$ | 25 | 25 | μA |
| | | $V_R = 800\text{ V}$, $T_j = 125\text{ }^\circ\text{C}$ | 10 | 10 | mA |

Recovery Time

| Parameter | Symbol | Conditions | FR30K(R)05 | FR30M(R)05 | Unit |
|-------------------------------|----------|---|------------|------------|------|
| Maximum reverse recovery time | T_{RR} | $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RR} = 0.25\text{ A}$ | 500 | 500 | nS |

Thermal characteristics

| Parameter | Symbol | FR30K(R)05 | FR30M(R)05 | Unit |
|-------------------------------------|------------|------------|------------|--------------------|
| Thermal resistance, junction - case | R_{thJC} | 0.46 | 0.46 | $^\circ\text{C/W}$ |

Figure .1-Typical Forward Characteristics

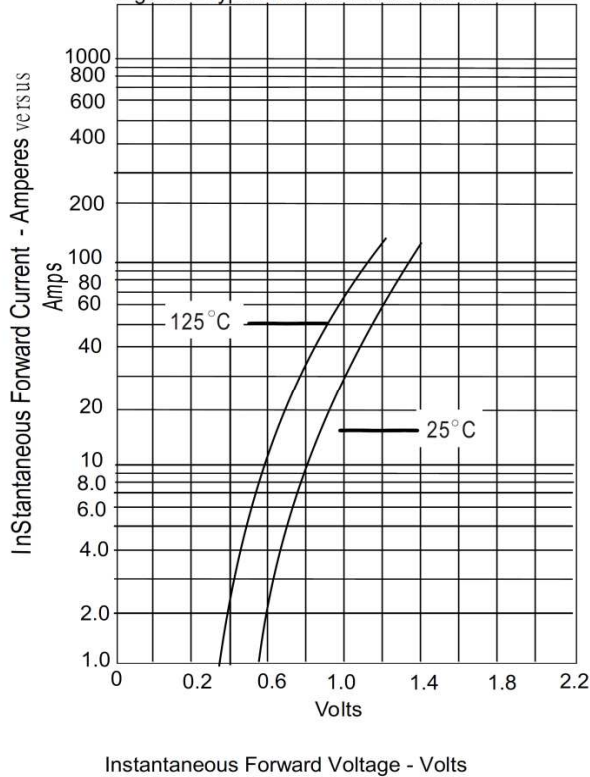


Figure .2-Forward Derating Curve

