

Silicon Fast Recovery Diode

$V_{RRM} = 50\text{ V} - 1000\text{ V}$
 $I_F = 6\text{ A}$

Features

- High Surge Capability
- Types up to 1000 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 | FR6A(R)05 | FR6B(R)05 | FR6D(R)05 | FR6G(R)05 | Unit |
|--|------------|--|------------|------------|------------|------------|------|
| Repetitive peak reverse voltage | V_{RRM} | | 50 | 100 | 200 | 400 | V |
| RMS reverse voltage | V_{RMS} | | 35 | 70 | 140 | 280 | V |
| DC blocking voltage | V_{DC} | | 50 | 100 | 200 | 400 | V |
| Continuous forward current | I_F | $T_C \leq 100\text{ °C}$ | 16 | 16 | 16 | 16 | A |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25\text{ °C}$, $t_p = 8.3\text{ ms}$ | 135 | 135 | 135 | 135 | A |
| Operating temperature | T_j | | -65 to 150 | -65 to 150 | -65 to 150 | -65 to 150 | °C |
| Storage temperature | T_{stg} | | -65 to 175 | -65 to 175 | -65 to 175 | -65 to 175 | °C |

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

| Parameter | Symbol | Conditions | FR6A(R)05 | FR6B(R)05 | FR6D(R)05 | FR6G(R)05 | Unit |
|-----------------------|--------|---|-----------|-----------|-----------|-----------|---------------|
| Diode forward voltage | V_F | $I_F = 6\text{ A}$, $T_j = 25\text{ °C}$ | 1.4 | 1.4 | 1.4 | 1.4 | V |
| Reverse current | I_R | $V_R = 50\text{ V}$, $T_j = 25\text{ °C}$ | 25 | 25 | 25 | 25 | μA |
| | | $V_R = 50\text{ V}$, $T_j = 150\text{ °C}$ | 6 | 6 | 6 | 6 | mA |

Recovery Time

| | | | | | | | |
|-------------------------------|----------|---|-----|-----|-----|-----|----|
| 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 | 500 | 500 | nS |
|-------------------------------|----------|---|-----|-----|-----|-----|----|

Thermal characteristics

| | | | | | | | |
|-------------------------------------|------------|--|-----|-----|-----|-----|------|
| Thermal resistance, junction - case | R_{thJC} | | 2.5 | 2.5 | 2.5 | 2.5 | °C/W |
|-------------------------------------|------------|--|-----|-----|-----|-----|------|

