



FR20K05 thru FR20MR05

Silicon Fast Recovery Diode

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

$I_F = 20 \text{ A}$

Features

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

DO-5 Package



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

| Parameter | Symbol | Conditions | FR20K(R)05 | FR20M(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 | $T_C \leq 100^\circ\text{C}$ | 20 | 20 | A |
| Surge non-repetitive forward current, Half Sine Wave | $I_{F,SM}$ | $T_C = 25^\circ\text{C}, t_p = 8.3 \text{ ms}$ | 250 | 250 | 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 $T_j = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Conditions | FR20K(R)05 | FR20M(R)05 | Unit |
|-----------------------|--------|---|------------|------------|---------------------|
| Diode forward voltage | V_F | $I_F = 20 \text{ A}, T_j = 25^\circ\text{C}$ | 1.4 | 1.4 | V |
| Reverse current | I_R | $V_R = 800 \text{ V}, T_j = 25^\circ\text{C}$ $V_R = 800 \text{ V}, T_j = 125^\circ\text{C}$ | 25 10 | 25 10 | μA 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 | nS |
|-------------------------------|----------|--|-----|-----|----|

Thermal characteristics

| | | | | |
|-------------------------------------|------------|-----|-----|--------------------|
| Thermal resistance, junction - case | R_{thJC} | 0.6 | 0.6 | $^\circ\text{C/W}$ |
|-------------------------------------|------------|-----|-----|--------------------|



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