

Silicon Fast Recovery Diode

$$V_{RRM} = 50 \text{ V} - 600 \text{ V}$$

$$I_F = 20 \text{ A}$$

Features

- High Surge Capability
- Types up to 600 V V_{RRM}

DO-5 Package

Note:

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



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

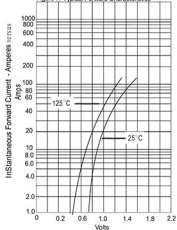
Parameter	Symbol	Conditions	FR20A(R)02	FR20B(R)02	FR20D(R)02	FR20G(R)02	FR20J(R)02	Unit
Repetitive peak reverse voltage	V_{RRM}		50	100	200	400	600	V
RMS reverse voltage	V_{RRM}		35	70	140	280	420	V
DC blocking voltage	V_{DC}		50	100	200	400	600	V
Continuous forward current	I_F	$T_C \leq 100^\circ\text{C}$	20	20	20	20	20	A
Surge non-repetitive forward current, Half Sine Wave	I_{FSM}	$T_C = 25^\circ\text{C}$, $t_F = 8.3 \text{ ms}$	250	250	250	250	250	A
Operating temperature	T_J		-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	FR20A(R)02	FR20B(R)02	FR20D(R)02	FR20G(R)02	FR20J(R)02	Unit
Diode forward voltage	V_F	$I_F = 20 \text{ A}$, $T_J = 25^\circ \text{C}$	1.4	1.4	1.4	1.4	1.4	V
Reverse current	I_R	$V_R = 50 \text{ V}$, $T_J = 25^\circ \text{C}$	25	25	25	25	25	μA
		$V_R = 50 \text{ V}$, $T_J = 150^\circ \text{C}$	10	10	10	10	10	10
Recovery Time								
Maximum reverse recovery time	T_{RR}	$I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{RR} = 0.25 \text{ A}$	200	200	200	200	250	nS
Thermal characteristics								
Thermal resistance, junction - case	$R_{\theta JC}$		0.6	0.6	0.6	0.6	0.6	$^\circ\text{C/W}$

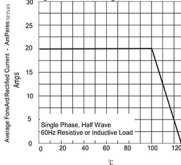


Figure 1-Typical Forward Characteristics



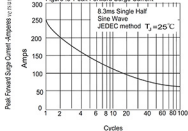
Instantaneous Forward Voltage - Volts

Figure 2- Forward Derating Curve



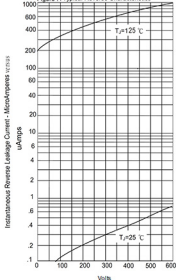
Case Temperature - °C

Figure 3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure 4 Typical Reverse Characteristics



Percent Of Rated Peak Reverse Voltage - Volts