

**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 $T_J = 25\text{ }^\circ\text{C}$, 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	$T_C \leq 100\text{ }^\circ\text{C}$	20	20	20	20	20	A
Surge non-repetitive forward current, Half Sine Wave	I_{FSM}	$T_C = 25\text{ }^\circ\text{C}$, $t_p = 8.3\text{ ms}$	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 $T_J = 25\text{ }^\circ\text{C}$, 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	$I_F = 20\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$	1.4	1.4	1.4	1.4	1.4	V
Reverse current	I_R	$V_R = 50\text{ V}$, $T_J = 25\text{ }^\circ\text{C}$	25	25	25	25	25	μA
		$V_R = 50\text{ V}$, $T_J = 150\text{ }^\circ\text{C}$	10	10	10	10	10	mA

Recovery Time

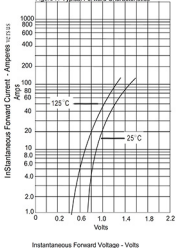
Maximum reverse recovery time	T_{RR}	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $t_{RR} = 0.25\text{ A}$	200	200	200	200	250	nS
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Thermal characteristics

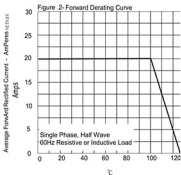
Thermal resistance, junction - case	$R_{\theta JC}$		0.6	0.6	0.6	0.6	0.6	$^\circ\text{C/W}$
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Figure 1-Typical Forward Characteristics

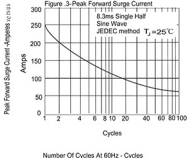


Instantaneous Forward Voltage - Volts



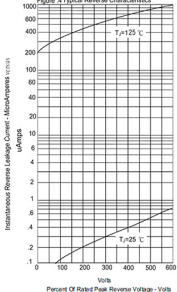
Case Temperature - °C

Figure 3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure 4 Typical Reverse Characteristics



Percent Of Rated Peak Reverse Voltage - Volts