



**America Semiconductor**

**Silicon Fast Recovery Diode**

**FR20A02 thru  
FR20JR02**

**V<sub>RRM</sub> = 50 V - 600 V**

**I<sub>F</sub> = 20 A**

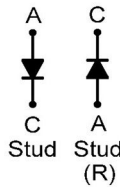
**Features**

- High Surge Capability
- Types up to 600 V V<sub>RRM</sub>

**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<sub>j</sub> = 25 °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 <sub>RRM</sub>		50	100	200	400	600	V
RMS reverse voltage	V <sub>RMS</sub>		35	70	140	280	420	V
DC blocking voltage	V <sub>DC</sub>		50	100	200	400	600	V
Continuous forward current	I <sub>F</sub>	T <sub>C</sub> ≤ 100 °C	20	20	20	20	20	A
Surge non-repetitive forward current, Half Sine Wave	I <sub>F,SM</sub>	T <sub>C</sub> = 25 °C, t <sub>p</sub> = 8.3 ms	250	250	250	250	250	A
Operating temperature	T <sub>j</sub>		-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125	°C
Storage temperature	T <sub>stg</sub>		-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 150	°C

**Electrical characteristics, at T<sub>j</sub> = 25 °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 <sub>F</sub>	I <sub>F</sub> = 20 A, T <sub>j</sub> = 25 °C	1.4	1.4	1.4	1.4	1.4	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 50 V, T <sub>j</sub> = 25 °C	25	25	25	25	25	µA
		V <sub>R</sub> = 50 V, T <sub>j</sub> = 150 °C	10	10	10	10	10	mA
<b>Recovery Time</b>								
Maximum reverse recovery time	T <sub>RR</sub>	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>RR</sub> = 0.25 A	200	200	200	200	250	nS
<b>Thermal characteristics</b>								
Thermal resistance, junction - case	R <sub>thJC</sub>		0.6	0.6	0.6	0.6	0.6	°C/W





Figure .1-Typical Forward Characteristics

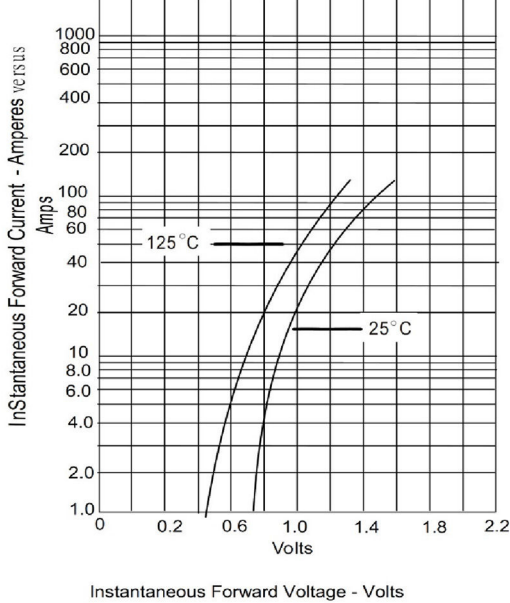


Figure .2- Forward Derating Curve

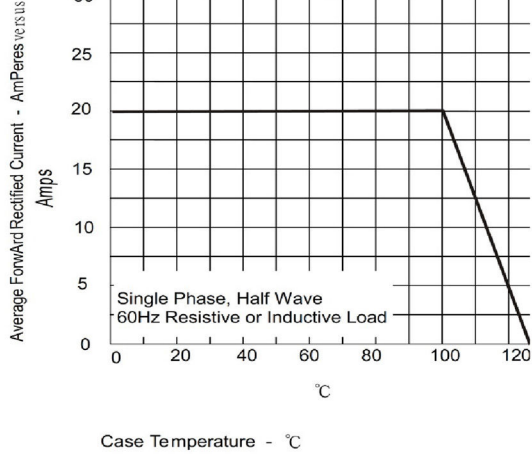


Figure .4 Typical Reverse Characteristics

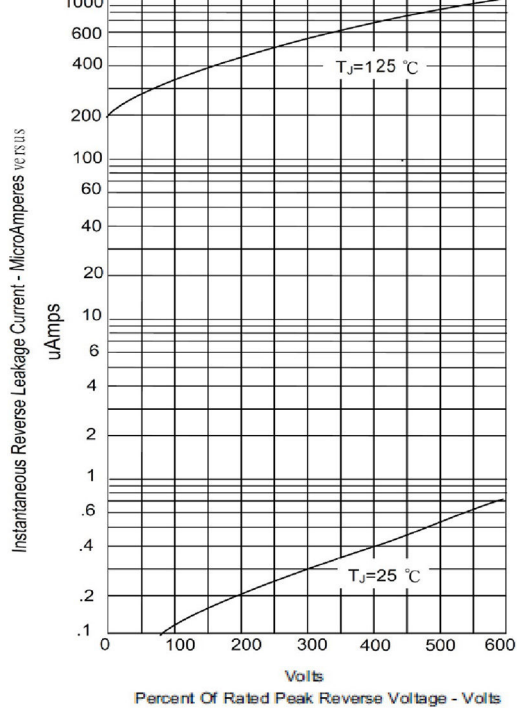


Figure .3-Peak Forward Surge Current

