



America Semiconductor

Silicon Fast Recovery Diode

FR20A02 thru
FR20JR02

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

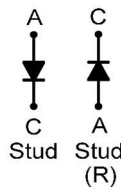
$I_F = 20\text{ A}$

Features

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

Note:

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



DO-5 Package

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_{RMS}		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	$I_{F,SM}$	$T_C = 25\text{ }^{\circ}\text{C}$, $t_p = 8.3\text{ ms}$	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 A, T _j = 25 °C	1.4	1.4	1.4	1.4	1.4	V
Reverse current	I _R	V _R = 50 V, T _j = 25 °C	25	25	25	25	25	μA
		V _R = 50 V, T _j = 150 °C	10	10	10	10	10	mA
Recovery Time								
Maximum reverse recovery time	T _{RR}	I _F =0.5 A, I _R =1.0 A, I _{RR} = 0.25 A	200	200	200	200	250	nS
Thermal characteristics								
Thermal resistance, junction - case	R _{thJC}		0.6	0.6	0.6	0.6	0.6	°C/W



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Figure .1-Typical Forward Characteristics

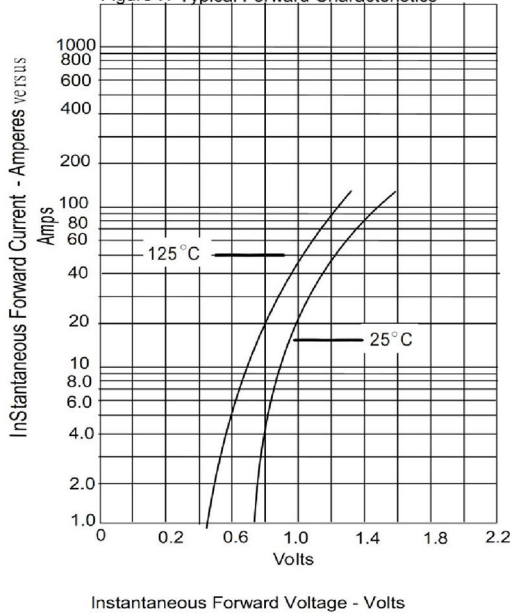


Figure .2- Forward Derating Curve

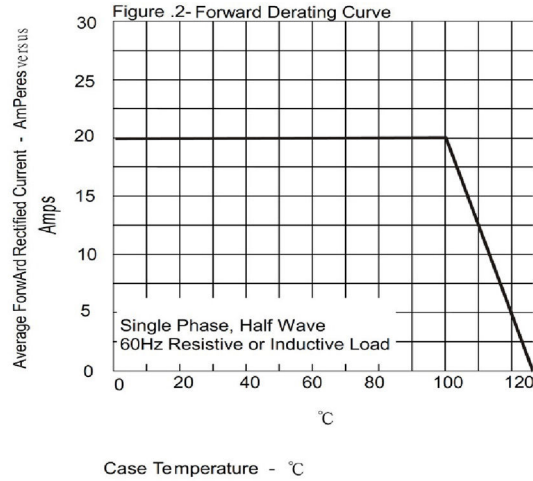


Figure .3-Peak Forward Surge Current

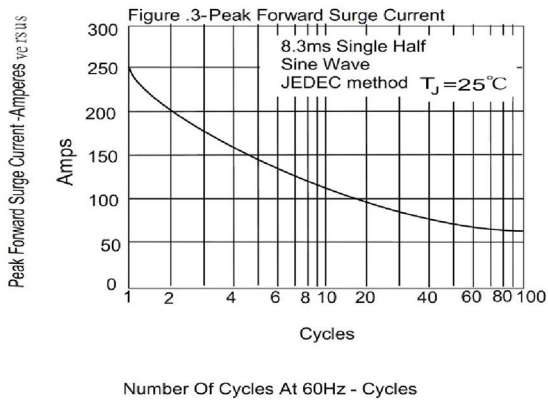


Figure .4 Typical Reverse Characteristics

