

# America Semiconductor



"In America Semi We Trust"

MANUFACTURER OF WORLD CLASS HIGH POWER SEMICONDUCTORS



## Silicon Fast Recovery Diode

### Features

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

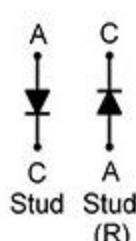
## FR12B05 thru FR12JR05

$V_{RRM} = 100\text{ V} - 1000\text{ V}$   
 $I_F = 12\text{ A}$

DO-4 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	FR12B(R)05	FR12D(R)05	FR12G(R)05	FR12J(R)05	Unit
Repetitive peak reverse voltage	$V_{RRM}$		100	200	400	600	V
RMS reverse voltage	$V_{RMS}$		70	140	280	420	V
DC blocking voltage	$V_{DC}$		100	200	400	600	V
Continuous forward current	$I_F$	$T_C \leq 100\text{ }^\circ\text{C}$	12	12	12	12	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^\circ\text{C}$ , $t_p = 8.3\text{ ms}$	180	180	180	180	A
Operating temperature	$T_j$		-65 to 150	-65 to 150	-65 to 150	-65 to 150	$^\circ\text{C}$
Storage temperature	$T_{stg}$		-65 to 175	-65 to 175	-65 to 175	-65 to 175	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	FR12B(R)05	FR12D(R)05	FR12G(R)05	FR12J(R)05	Unit
Diode forward voltage	$V_F$	$I_F = 12\text{ A}$ , $T_j = 25\text{ }^\circ\text{C}$	1.4	1.4	1.4	1.4	V
Reverse current	$I_R$	$V_R = 100\text{ V}$ , $T_j = 25\text{ }^\circ\text{C}$	25	25	25	25	$\mu\text{A}$
		$V_R = 100\text{ V}$ , $T_j = 150\text{ }^\circ\text{C}$	6	6	6	6	mA
<b>Recovery Time</b>							
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	500	500	nS
<b>Thermal characteristics</b>							
Thermal resistance, junction - case	$R_{th(j-c)}$		2.0	2.0	2.0	2.0	$^\circ\text{C/W}$

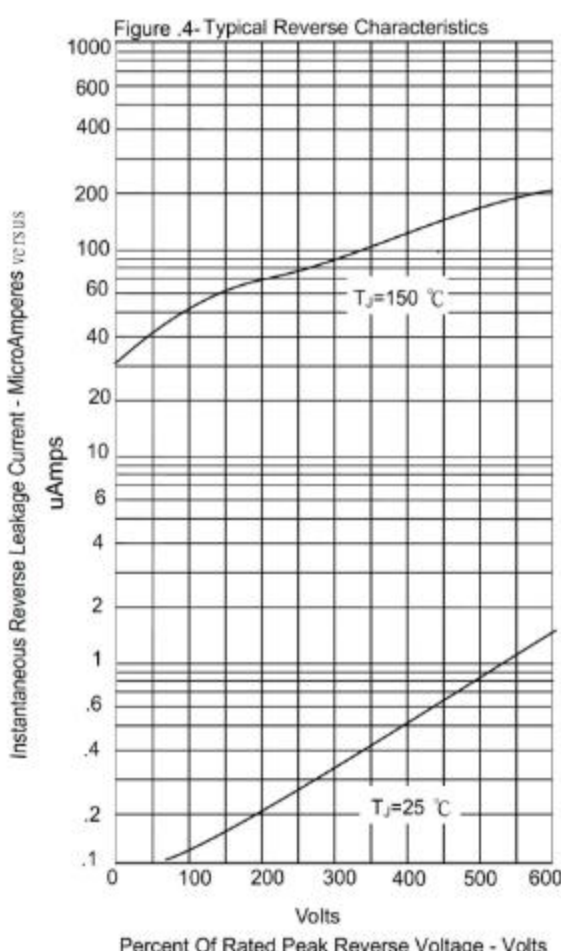
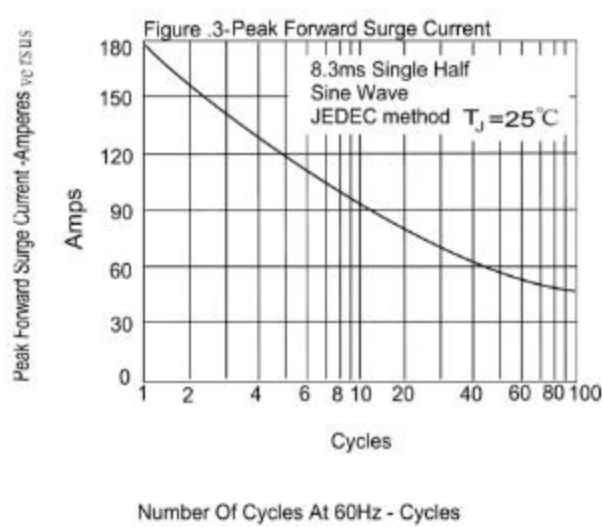
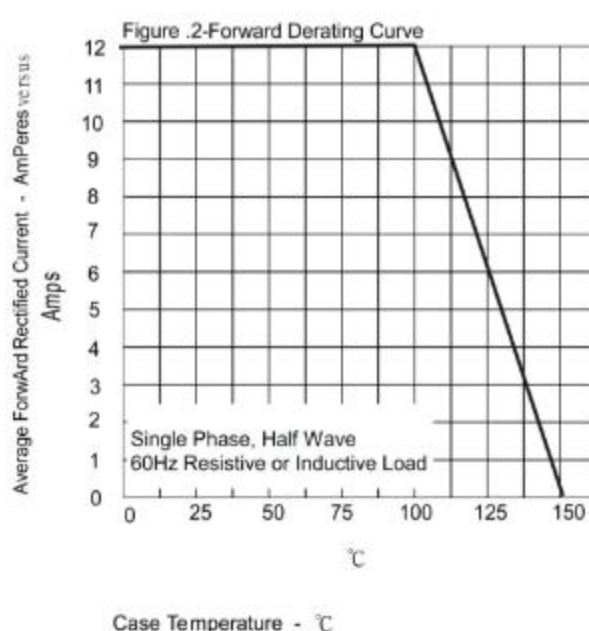
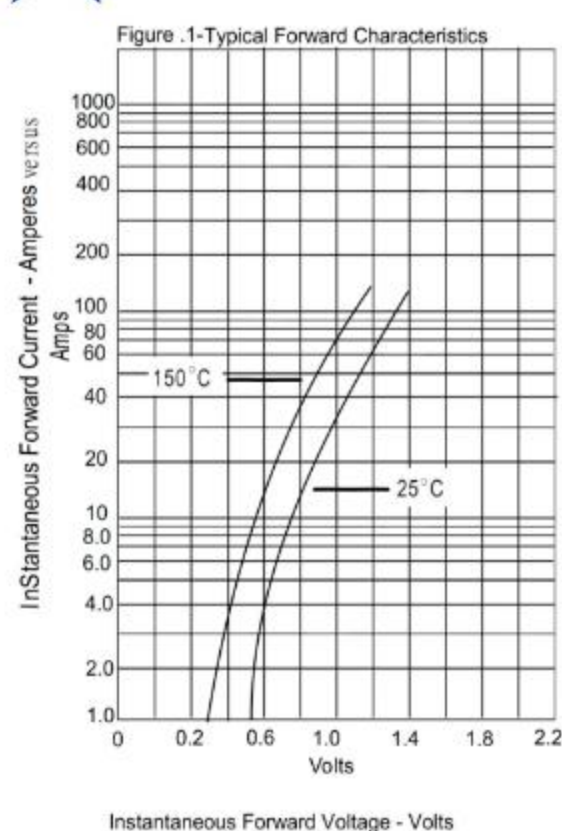


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## FR12B05 thru FR12JR05



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