



America Semiconductor

Silicon Fast Recovery Diode

FR12K05 thru
FR12MR05

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

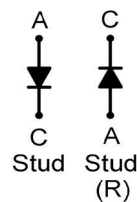
$I_F = 12\text{ A}$

Features

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

Note:

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



DO-4 Package

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

Parameter	Symbol	Conditions	FR12K(R)05	FR12M(R)05	Unit
Repetitive peak reverse voltage	V_{RRM}		800	1000	V
RMS reverse voltage	V_{RMS}		560	700	V
DC blocking voltage	V_{DC}		800	1000	V
Continuous forward current	I_F	$T_C \leq 100\text{ }^{\circ}\text{C}$	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	A
Operating temperature	T_j		-65 to 150	-65 to 150	$^{\circ}\text{C}$
Storage temperature	T_{stg}		-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	FR12K(R)05	FR12M(R)05	Unit
Diode forward voltage	V_F	$I_F = 12\text{ A}$, $T_j = 25\text{ }^{\circ}\text{C}$	1.4	1.4	V
Reverse current	I_R	$V_R = 100\text{ V}$, $T_j = 25\text{ }^{\circ}\text{C}$ $V_R = 100\text{ V}$, $T_j = 150\text{ }^{\circ}\text{C}$	25 6	25 6	μA mA
Recovery Time					
Maximum reverse recovery time	T_{RR}	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RR} = 0.25\text{ A}$	500	500	nS
Thermal characteristics					
Thermal resistance, junction - case	R_{thJC}		2.0	2.0	$^{\circ}\text{C/W}$



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