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America Semiconductor

"In America Semi We Trust"

MANUFACTURER OF WORLD CLASS HIGH POWER SEMICONDUCTORS

America Semiconductor

Silicon Fast Recovery Diode

FR6A05 thru FR6GR05

V_{RRM} = 50 V - 1000 V

I_F = 6 A

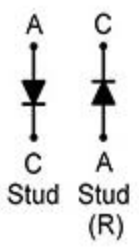
Features

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

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 °C, unless otherwise specified ("R" devices have leads reversed)

Parameter	Symbol	Conditions	FR6A(R)05	FR6B(R)05	FR6D(R)05	FR6G(R)05	Unit
Repetitive peak reverse voltage	V_{RRM}		50	100	200	400	V
RMS reverse voltage	V_{RMS}		35	70	140	280	V
DC blocking voltage	V_{DC}		50	100	200	400	V
Continuous forward current	I_F	$T_C \leq 100$ °C	16	16	16	16	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	135	135	135	135	A
Operating temperature	T_j		-65 to 150	-65 to 150	-65 to 150	-65 to 150	°C
Storage temperature	T_{stg}		-65 to 175	-65 to 175	-65 to 175	-65 to 175	°C

Electrical characteristics, at Tj = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	FR6A(R)05	FR6B(R)05	FR6D(R)05	FR6G(R)05	Unit
Diode forward voltage	V_F	I_F = 6 A, T_j = 25 °C	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	µA
		V_R = 50 V, T_j = 150 °C	6	6	6	6	mA
Recovery Time							
Maximum reverse recovery time	T_{RR}	I_F=0.5 A, I_R=1.0 A, I_{RR}= 0.25 A	500	500	500	500	nS
Thermal characteristics							
Thermal resistance, junction - case	R_{thJC}		2.5	2.5	2.5	2.5	°C/W

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FR6A05 thru FR6GR05

Figure .1-Typical Forward Characteristics

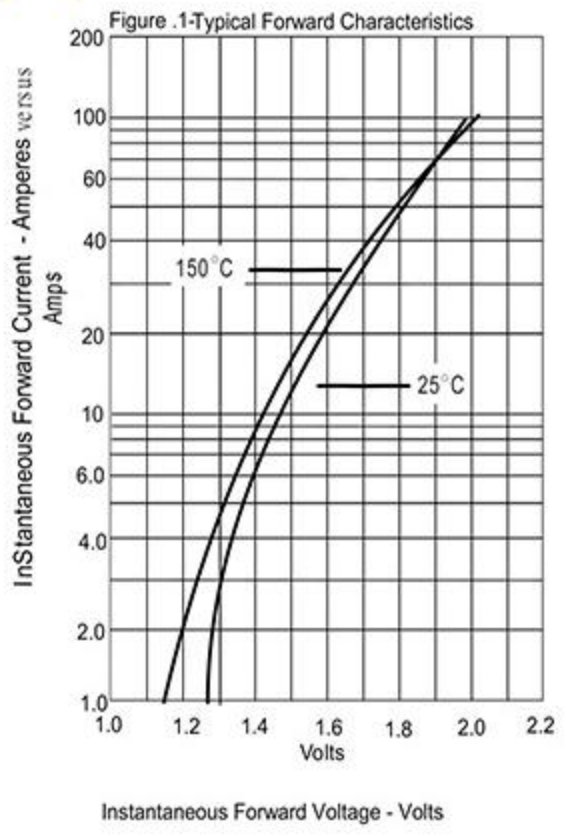


Figure .2-Forward Derating Curve

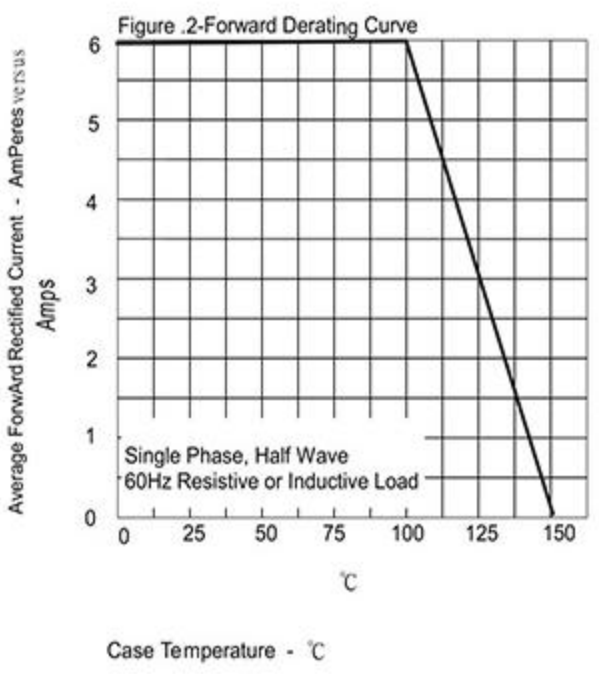


Figure .3-Peak Forward Surge Current

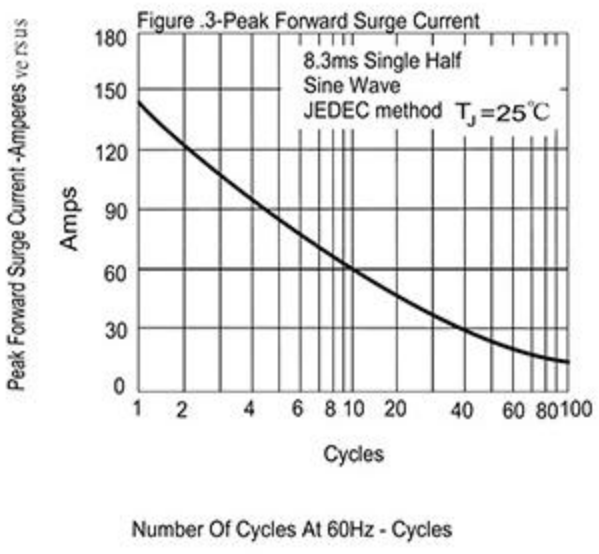
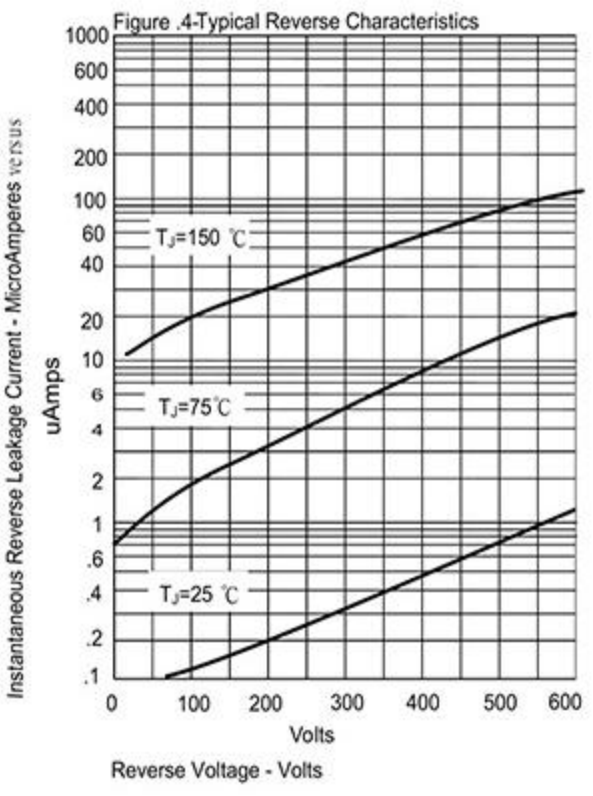


Figure .4-Typical Reverse Characteristics



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