America Semiconductor

FR85B05 thru FR85JR05

Silicon Fast Recovery Diode

V_{RRM} = 100 V - 1000 V

I_F = 85 A

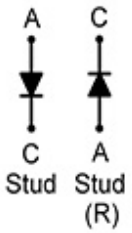
Features

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

DO-5 Package

Note:

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





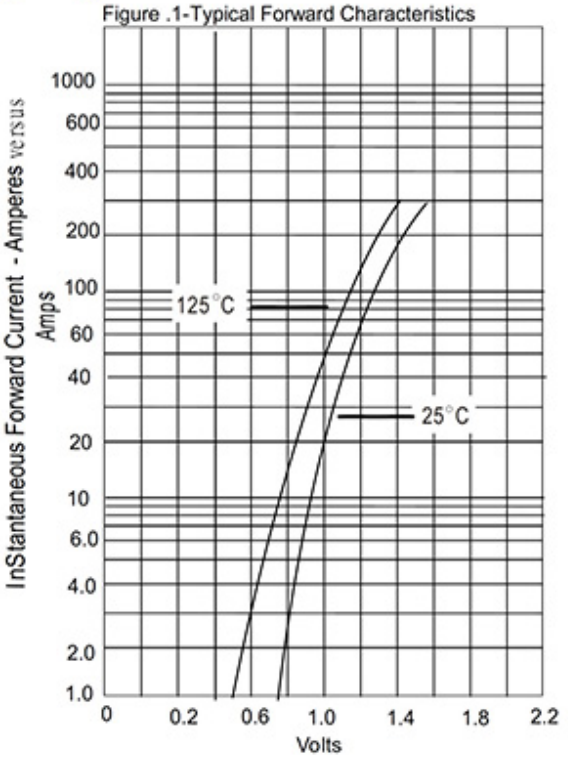
Maximum ratings, at T_j = 25 °C, unless otherwise specified ("R" devices have leads reversed)

Parameter	Symbol	Conditions	FR85B(R)05	FR85D(R)05	FR85G(R)05	FR85J(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	$T_C \leq 100$ °C	85	85	85	85	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	1369	1369	1369	1369	A
Operating temperature	T_j		-40 to 125	-40 to 125	-40 to 125	-40 to 125	°C
Storage temperature	T_{stg}		-40 to 150	-40 to 150	-40 to 150	-40 to 150	°C

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

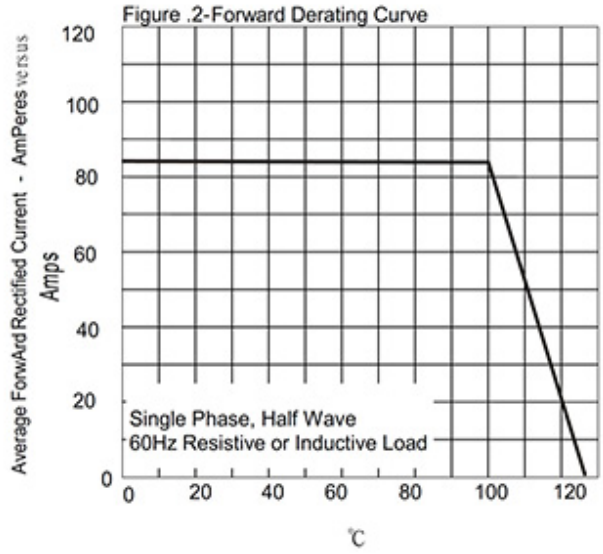
Parameter	Symbol	Conditions	FR85B(R)05	FR85D(R)05	FR85G(R)05	FR85J(R)05	Unit
Diode forward voltage	V_F	I_F = 85 A, T_j = 25 °C	1.4	1.4	1.4	1.4	V
Reverse current	I_R	V_R = 100 V, T_j = 25 °C	25	25	25	25	μA
		V_R = 100 V, T_j = 125 °C	20	20	20	20	mA
Recovery Time							
Maximum reverse recovery time	T_{RR}	I_F=0.5 A, I_R=1.0 A, I_{RR}= 0.25 A	500	500	500	500	nS

Figure .1-Typical Forward Characteristics



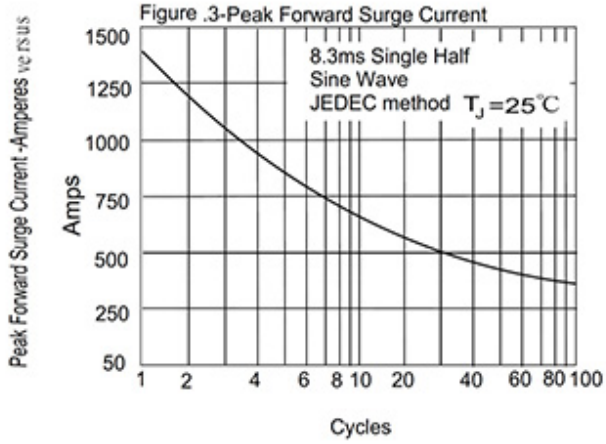
Instantaneous Forward Voltage - Volts

Figure .2-Forward Derating Curve



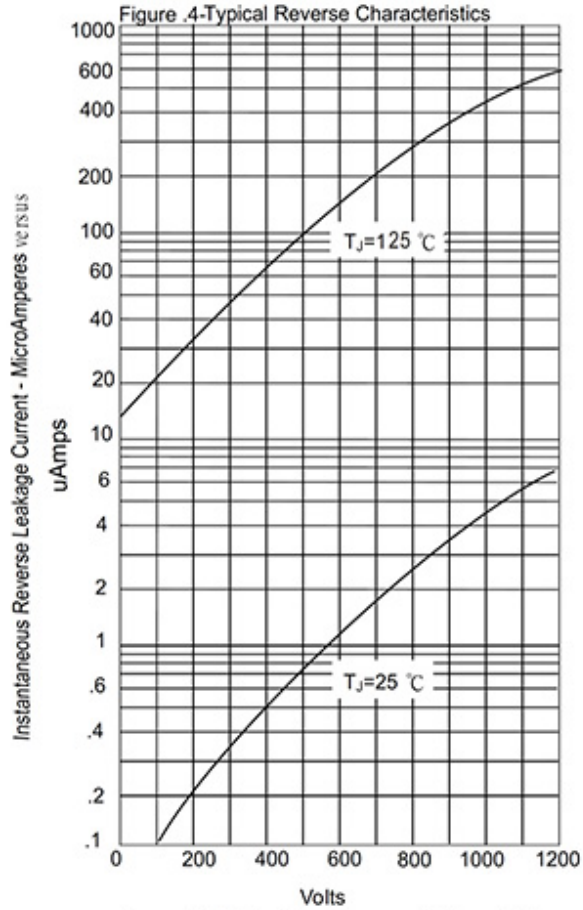
Case Temperature - °C

Figure .3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure .4-Typical Reverse Characteristics



Percent Of Rated Peak Reverse Voltage - Volts