America Semiconductor

Silicon Fast Recovery Diode

FR40B02 thru FR40JR02

V_{RRM} = 100 V - 600 V

I_F = 40 A

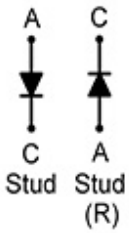
Features

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

DO-5 Package

Note:

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





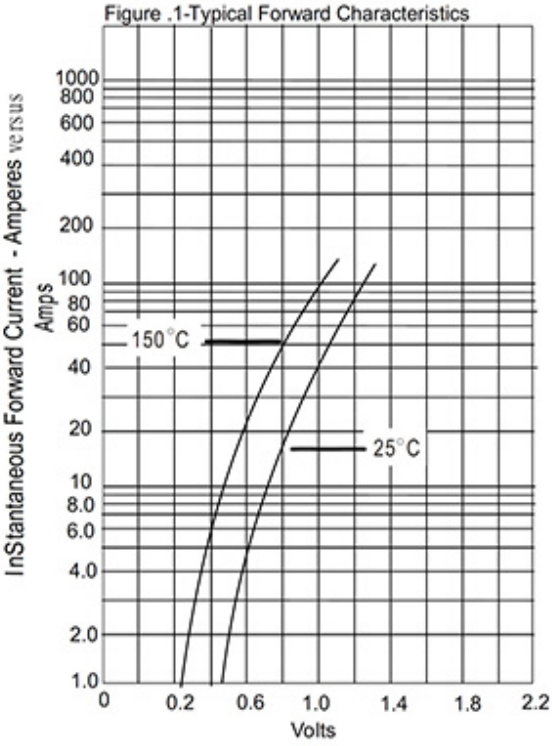
Maximum ratings, at T_j = 25 °C, unless otherwise specified ("R" devices have leads reversed)

Parameter	Symbol	Conditions	FR40B(R)02	FR40D(R)02	FR40G(R)02	FR40J(R)02	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	40	40	40	40	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	500	500	500	500	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

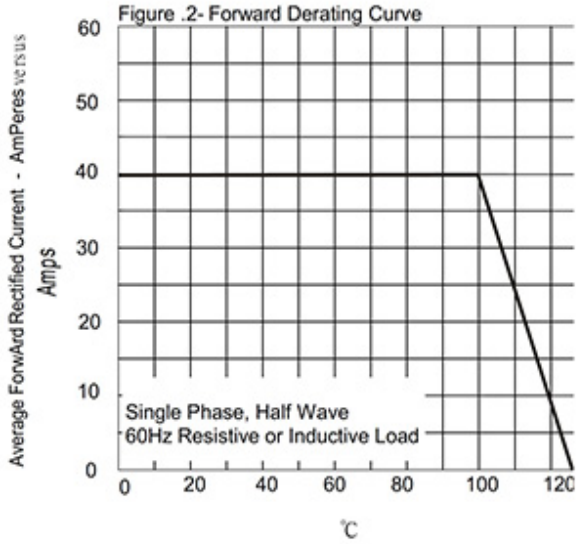
Parameter	Symbol	Conditions	FR40B(R)02	FR40D(R)02	FR40G(R)02	FR40J(R)02	Unit
Diode forward voltage	V_F	I_F = 40 A, T_j = 25 °C	1.4	1.4	1.4	1.4	V
Reverse current	I_R	V_R = 100 V, T_j = 25 °C	25	25	25	25	µA
		V_R = 100 V, T_j = 125 °C	10	10	10	10	mA
Recovery Time							
Maximum reverse recovery time	T_{RR}	I_F=0.5 A, I_R=1.0 A, I_{RR}= 0.25 A	200	200	200	250	nS
Thermal characteristics							
Thermal resistance, junction - case	R_{thJC}		0.8	0.8	0.8	0.8	°C/W

Figure .1-Typical Forward Characteristics



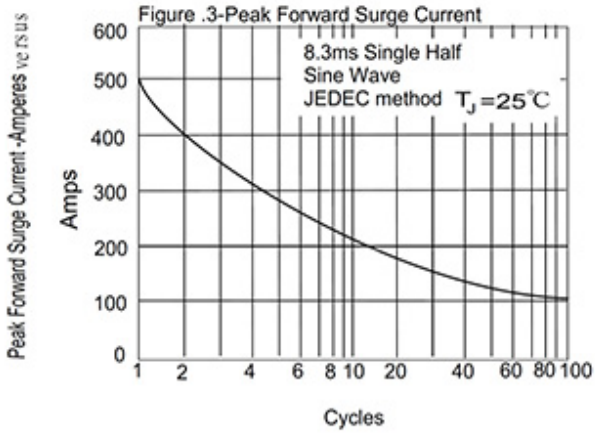
Instantaneous Forward Voltage - Volts

Figure .2- Forward Derating Curve



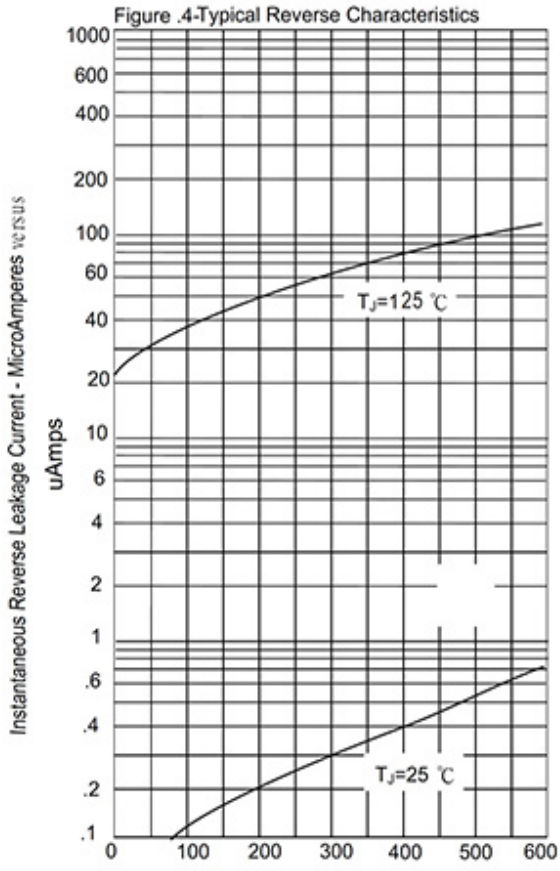
Case Temperature - °C

Figure .3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure .4-Typical Reverse Characteristics



Percent Of Rated Peak Reverse Voltage - Volts