



America Semiconductor

Silicon Fast Recovery Diode

FR40B02 thru FR40JR02

$V_{RRM} = 100\text{ V} - 600\text{ V}$

$I_F = 40\text{ A}$

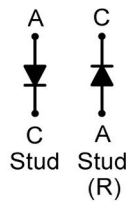
Features

- 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 $T_j = 25\text{ °C}$, 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	$T_C \leq 100\text{ °C}$	40	40	40	40	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ °C}$, $t_p = 8.3\text{ ms}$	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 $T_j = 25\text{ °C}$, unless otherwise specified

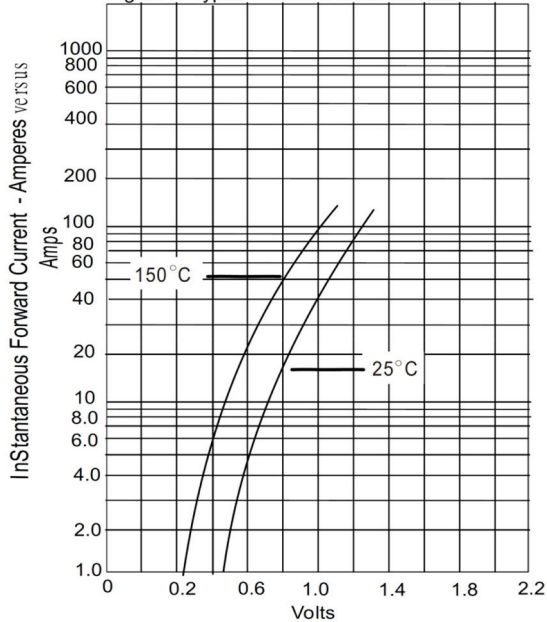
Parameter	Symbol	Conditions	FR40B(R)02	FR40D(R)02	FR40G(R)02	FR40J(R)02	Unit
Diode forward voltage	V _F	I _F = 40 A, T _j = 25 °C	1.4	1.4	1.4	1.4	V
Reverse current	I _R	V _R = 100 V, T _j = 25 °C	25	25	25	25	μA
		V _R = 100 V, T _j = 125 °C	10	10	10	10	mA
Recovery Time							
Maximum reverse recovery 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



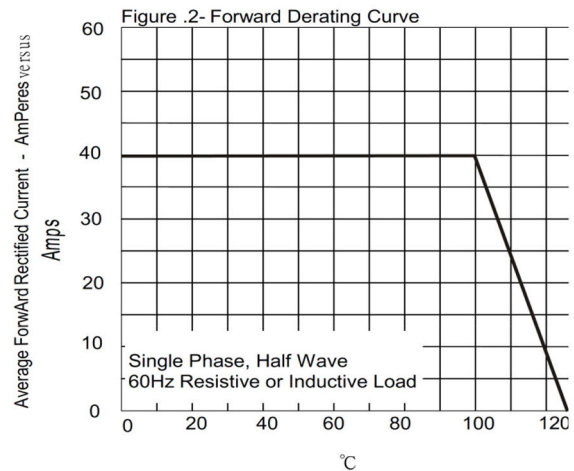
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Figure .1-Typical Forward Characteristics

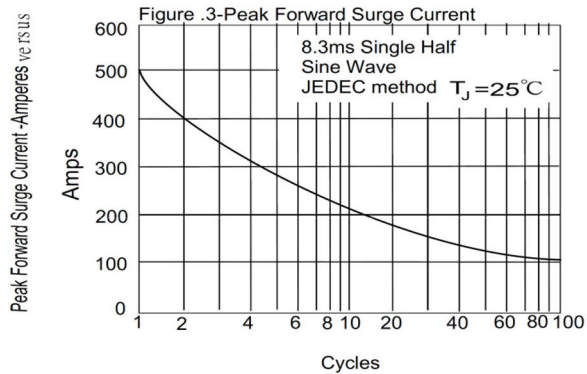


Instantaneous Forward Voltage - Volts



Case Temperature - °C

Figure .3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure .4-Typical Reverse Characteristics

