



Silicon Fast Recovery Diode

FR40B05 thru FR40JR05

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

$I_F = 40\text{ A}$

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

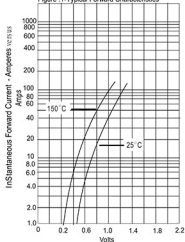
Parameter	Symbol	Conditions	FR40B(R)05	FR40D(R)05	FR40G(R)05	FR40J(R)05	Unit
Repetitive peak reverse voltage	V_{RRM}		100	200	400	600	V
RMS reverse voltage	V_{RMS}		70	140	280	420	V
DC blocking voltage	V_{DC}		100	200	400	600	V
Continuous forward current	I_F	$T_C \leq 100\text{ }^{\circ}\text{C}$	40	40	40	40	A
Surge non-repetitive forward current, Half Sine Wave	I_{FSM}	$T_C = 25\text{ }^{\circ}\text{C}$, $t_p = 8.3\text{ ms}$	500	500	500	500	A
Operating temperature	T_J		-40 to 125	-40 to 125	-40 to 125	-40 to 125	$^{\circ}\text{C}$
Storage temperature	T_{stg}		-40 to 150	-40 to 150	-40 to 150	-40 to 150	$^{\circ}\text{C}$

Electrical characteristics, at $T_J = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	FR40B(R)05	FR40D(R)05	FR40G(R)05	FR40J(R)05	Unit
Diode forward voltage	V_F	$I_F = 40\text{ A}$, $T_J = 25\text{ }^{\circ}\text{C}$	1.4	1.4	1.4	1.4	V
Reverse current	I_R	$V_R = 100\text{ V}$, $T_J = 25\text{ }^{\circ}\text{C}$	25	25	25	25	μA
		$V_R = 100\text{ V}$, $T_J = 125\text{ }^{\circ}\text{C}$	10	10	10	10	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	500	500	nS
Thermal characteristics							
Thermal resistance, junction - case	$R_{\theta JC}$		0.8	0.8	0.8	0.8	$^{\circ}\text{C/W}$

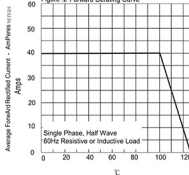


Figure .1-Typical Forward Characteristics



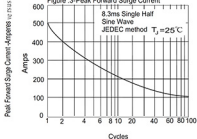
Instantaneous Forward Voltage - Volts

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

