

## Silicon Fast Recovery Diode

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

$I_F = 40\text{ A}$

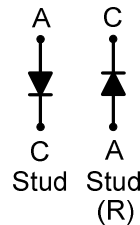
### Features

- 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	$V_F$	$I_F = 40\text{ A}$ , $T_j = 25\text{ °C}$	1.4	1.4	1.4	1.4	V
Reverse current	$I_R$	$V_R = 100\text{ V}$ , $T_j = 25\text{ °C}$	25	25	25	25	$\mu\text{A}$
		$V_R = 100\text{ V}$ , $T_j = 125\text{ °C}$	10	10	10	10	mA

### Recovery Time

Parameter	Symbol	Conditions	FR40B(R)02	FR40D(R)02	FR40G(R)02	FR40J(R)02	Unit
Maximum reverse recovery time	$T_{RR}$	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{RR} = 0.25\text{ A}$	200	200	200	250	nS

### Thermal characteristics

Parameter	Symbol	Conditions	FR40B(R)02	FR40D(R)02	FR40G(R)02	FR40J(R)02	Unit
Thermal resistance, junction - case	$R_{thJC}$		0.8	0.8	0.8	0.8	°C/W

Figure .1-Typical Forward Characteristics

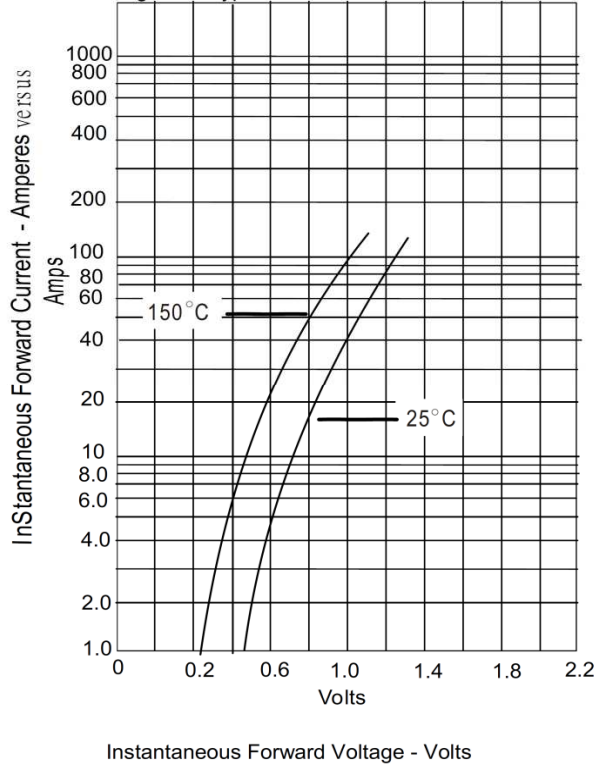


Figure .2- Forward Derating Curve

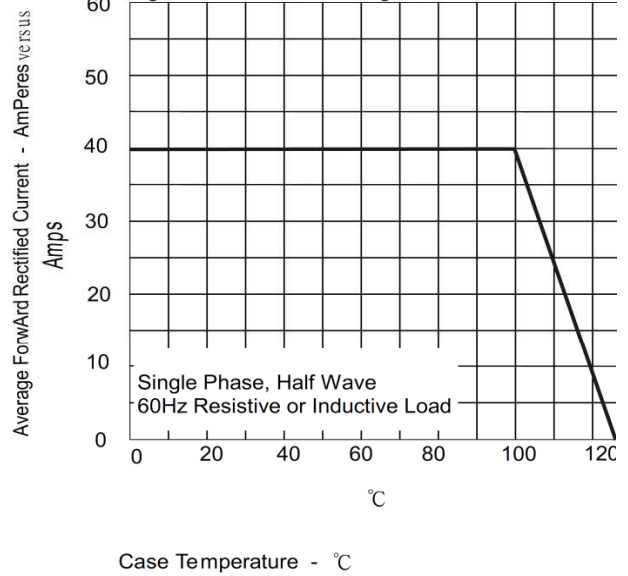


Figure .4-Typical Reverse Characteristics

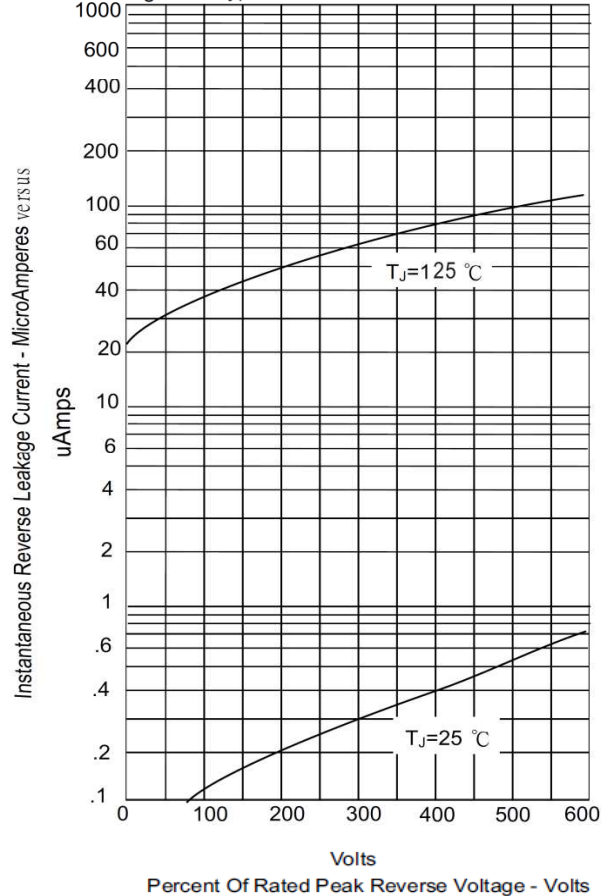


Figure .3-Peak Forward Surge Current

