

## Silicon Fast Recovery Diode

 $V_{RRM} = 100\text{ V} - 1000\text{ V}$ 
 $I_F = 40\text{ A}$ 

### Features

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

**DO-5 Package**

**Maximum ratings, at  $T_j = 25\text{ °C}$ , unless otherwise specified ("R" devices have leads reversed)**

Parameter	Symbol	Conditions	FR40K(R)05	FR40M(R)05	Unit
Repetitive peak reverse voltage	$V_{RRM}$		800	1000	V
RMS reverse voltage	$V_{RMS}$		560	700	V
DC blocking voltage	$V_{DC}$		800	1000	V
Continuous forward current	$I_F$	$T_C \leq 100\text{ °C}$	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	A
Operating temperature	$T_j$		-40 to 125	-40 to 125	°C
Storage temperature	$T_{stg}$		-40 to 150	-40 to 150	°C

**Electrical characteristics, at  $T_j = 25\text{ °C}$ , unless otherwise specified**

Parameter	Symbol	Conditions	FR40K(R)05	FR40M(R)05	Unit
Diode forward voltage	$V_F$	$I_F = 40\text{ A}$ , $T_j = 25\text{ °C}$	1.4	1.4	V
Reverse current	$I_R$	$V_R = 100\text{ V}$ , $T_j = 25\text{ °C}$	25	25	$\mu\text{A}$
		$V_R = 100\text{ V}$ , $T_j = 125\text{ °C}$	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	nS
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### Thermal characteristics

Thermal resistance, junction - case	$R_{thJC}$		0.8	0.8	°C/W
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Figure .1-Typical Forward Characteristics

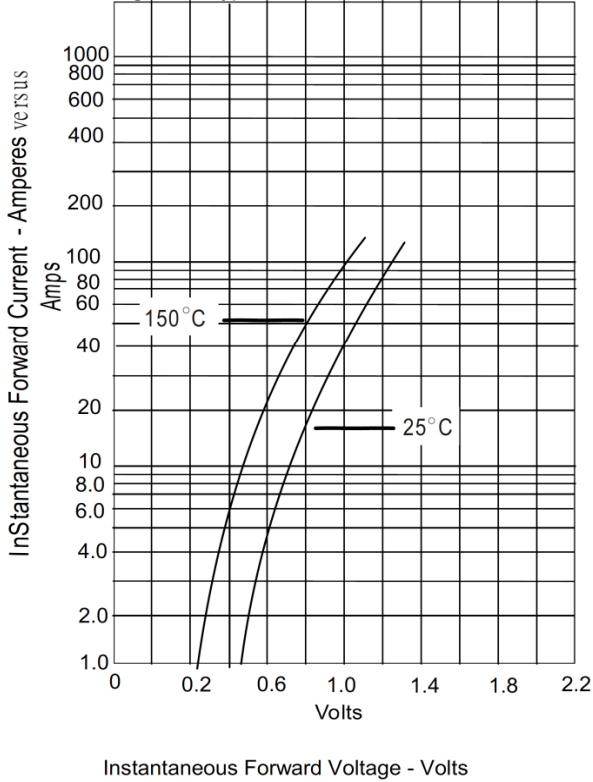


Figure .2-Forward Derating Curve

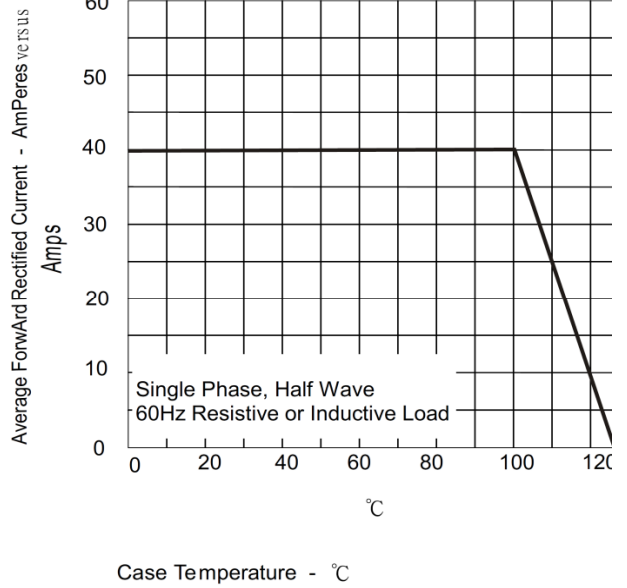


Figure .3-Peak Forward Surge Current

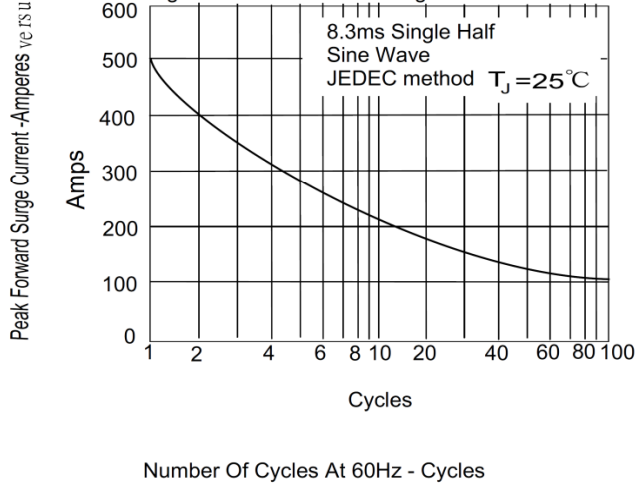


Figure .4-Typical Reverse Characteristics

