Silicon Fast Recovery Diode

V_{RRM} = 100 V - 1000 V
I_F = 12 A

Features

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

DO-4 Package

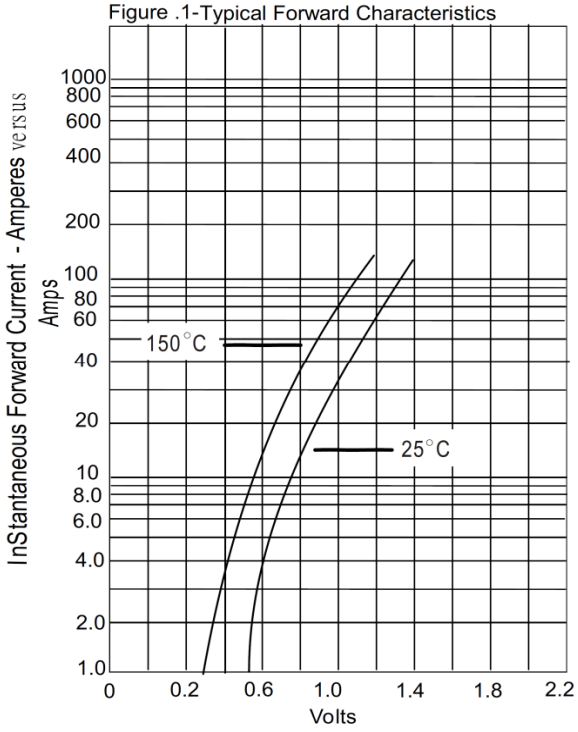
Maximum ratings, at T_j = 25 °C, unless otherwise specified ("R" devices have leads reversed)

Parameter	Symbol	Conditions	FR12K(R)05	FR12M(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	$T_C \leq 100$ °C	12	12	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	180	180	A
Operating temperature	T_j		-65 to 150	-65 to 150	°C
Storage temperature	T_{stg}		-65 to 175	-65 to 175	°C

Electrical characteristics, at Tj = 25 °C, unless otherwise specified

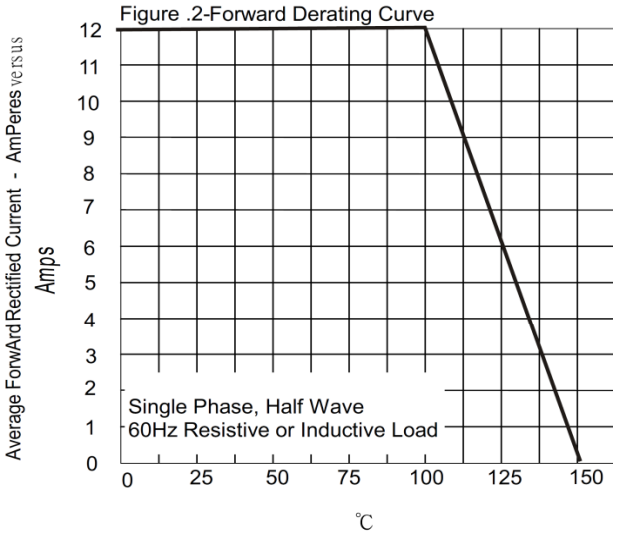
Parameter	Symbol	Conditions	FR12K(R)05	FR12M(R)05	Unit
Diode forward voltage	V_F	I_F = 12 A, T_j = 25 °C	1.4	1.4	V
Reverse current	I_R	V_R = 100 V, T_j = 25 °C	25	25	µA
		V_R = 100 V, T_j = 150 °C	6	6	mA
Recovery Time					
Maximum reverse recovery time	T_{RR}	I_F=0.5 A, I_R=1.0 A, I_{RR}= 0.25 A	500	500	nS
Thermal characteristics					
Thermal resistance, junction - case	R_{thJC}		2.0	2.0	°C/W

Figure .1-Typical Forward Characteristics



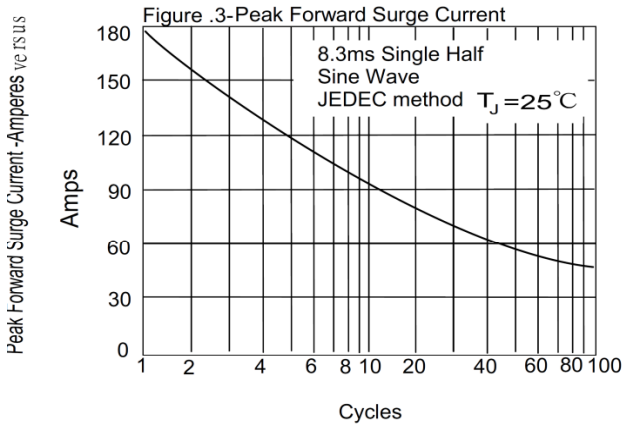
Instantaneous Forward Voltage - Volts

Figure .2-Forward Derating Curve



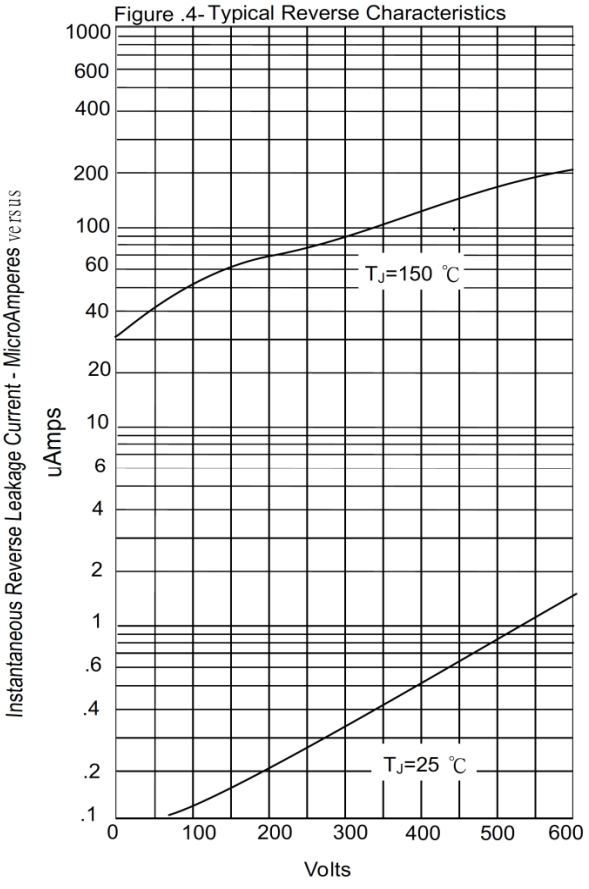
Case Temperature - ℃

Figure .3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure .4- Typical Reverse Characteristics



Percent Of Rated Peak Reverse Voltage - Volts