



America Semiconductor

Silicon Fast Recovery Diode

FR16K05 thru FR16MR05

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

$I_F = 16\text{ A}$

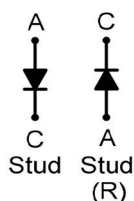
Features

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

DO-4 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	FR16K(R)05	FR16M(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	$T_C \leq 100\text{ }^{\circ}\text{C}$	16	16	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	$T_C = 25\text{ }^{\circ}\text{C}$, $t_p = 8.3\text{ ms}$	225	225	A
Operating temperature	T_j		-65 to 150	-65 to 150	$^{\circ}\text{C}$
Storage temperature	T_{stg}		-65 to 175	-65 to 175	$^{\circ}\text{C}$

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

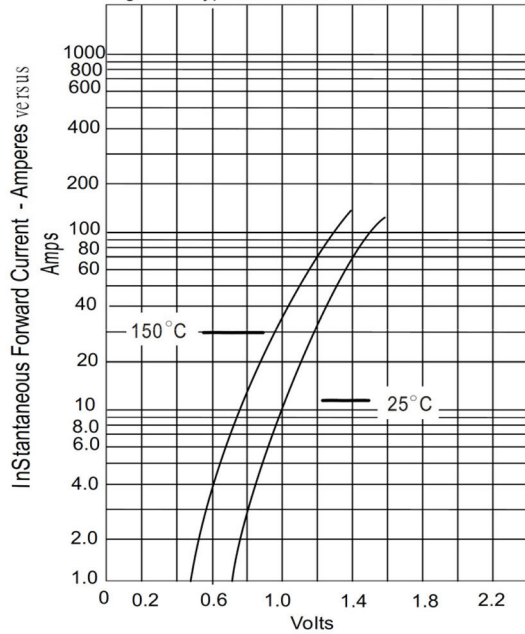
Parameter	Symbol	Conditions	FR16K(R)05	FR16M(R)05	Unit
Diode forward voltage	V _F	I _F = 16 A, T _j = 25 °C	1.4	1.4	V
Reverse current	I _R	V _R = 100 V, T _j = 25 °C	25	25	μA
		V _R = 100 V, T _j = 150 °C	6	6	mA
Recovery Time					
Maximum reverse recovery time	T _{RR}	I _F =0.5 A, I _R =1.0 A, I _{RR} = 0.25 A	500	500	nS
Thermal characteristics					
Thermal resistance, junction - case	R _{thJC}		1.5	1.5	°C/W



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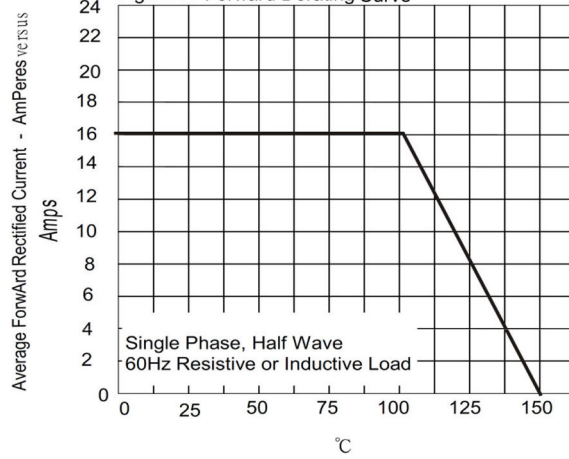
FR16K05 thru FR16MR05

Figure .1-Typical Forward Characteristics



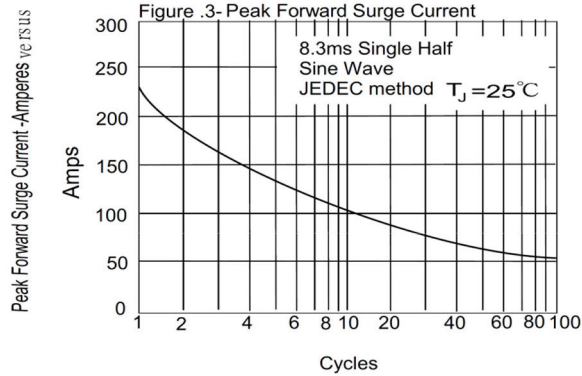
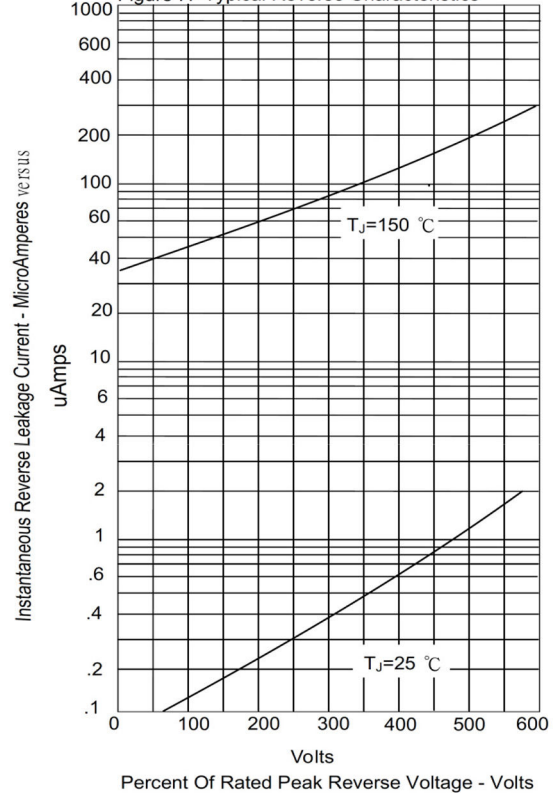
Instantaneous Forward Voltage - Volts

Figure .2-Forward Derating Curve



Case Temperature - °C

Figure .4- Typical Reverse Characteristics



Number Of Cycles At 60Hz - Cycles

