America Semiconductor

1N3889 thru 1N3893R

Silicon Fast Recovery Diode

V_{RRM} = 50 V - 400 V

I_F = 12 A

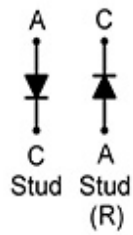
Features

- High Surge Capability
- Types up to 400 V V_{RRM}

DO-4 Package

Note:

1. Standard polarity: Stud is cathode.
2. Reverse polarity (R): Stud is anode.
3. Stud is base.



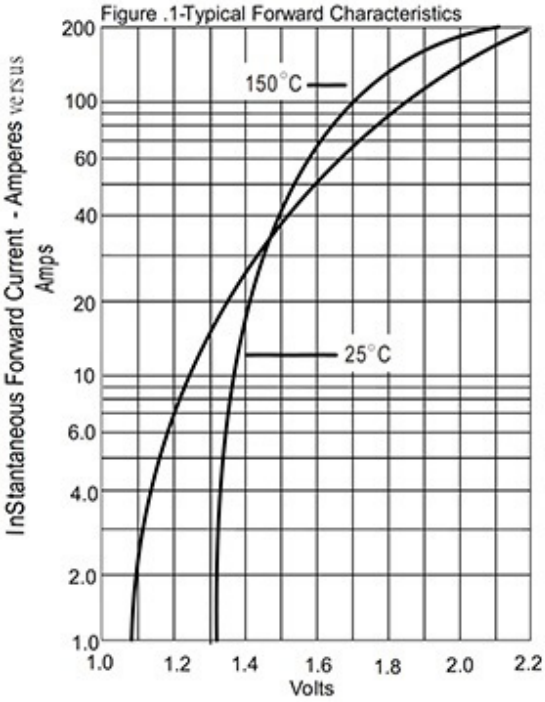
Maximum ratings, at T_j = 25 °C, unless otherwise specified ("R" devices have leads reversed)

Parameter	Symbol	Conditions	1N3889 (R)	1N3890 (R)	1N3891 (R)	1N3892 (R)	1N3893 (R)	Unit
Repetitive peak reverse voltage	V_{RRM}		50	100	200	300	400	V
RMS reverse voltage	V_{RMS}		35	70	140	280	420	V
DC blocking voltage	V_{DC}		50	100	200	400	600	V
Continuous forward current	I_F	$T_C \leq 100$ °C	12	12	12	12	12	A
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	90	90	90	90	90	A
Operating temperature	T_j		-65 to 150	-65 to 150	-65 to 150	-65 to 150	-65 to 150	°C
Storage temperature	T_{stg}		-65 to 175	-65 to 175	-65 to 175	-65 to 175	-65 to 175	°C

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

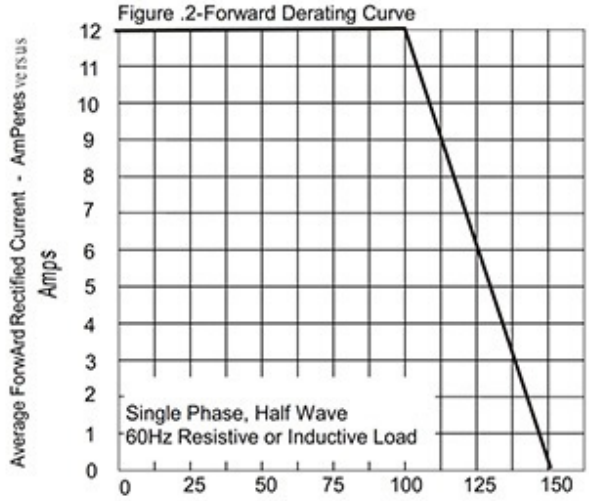
Parameter	Symbol	Conditions	1N3889 (R)	1N3890 (R)	1N3891 (R)	1N3892 (R)	1N3893 (R)	Unit
Diode forward voltage	V_F	I_F = 12 A, T_j = 25 °C	1.4	1.4	1.4	1.4	1.4	V
Reverse current	I_R	V_R = 50 V, T_j = 25 °C	25	25	25	25	25	µA
		V_R = 50 V, T_j = 150 °C	6	6	6	6	6	mA
Recovery Time								
Maximum reverse recovery time	T_{RR}	I_F=0.5 A, I_R=1.0 A, I_{RR}= 0.25 A	200	200	200	200	200	nS
Thermal characteristics								
Thermal resistance, junction - case	R_{thJC}		2.0	2.0	2.0	2.0	2.0	°C/W

Figure .1-Typical Forward Characteristics



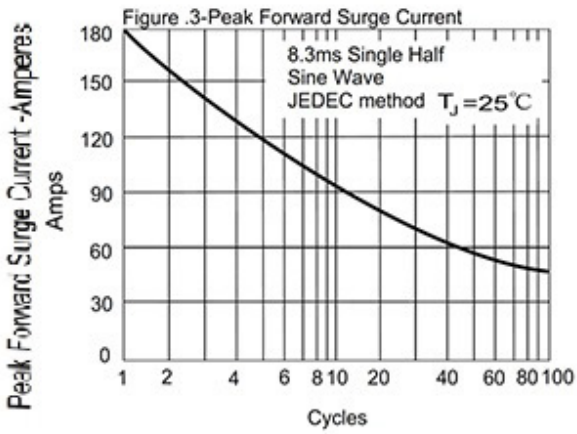
Instantaneous Forward Voltage - Volts

Figure .2-Forward Derating Curve



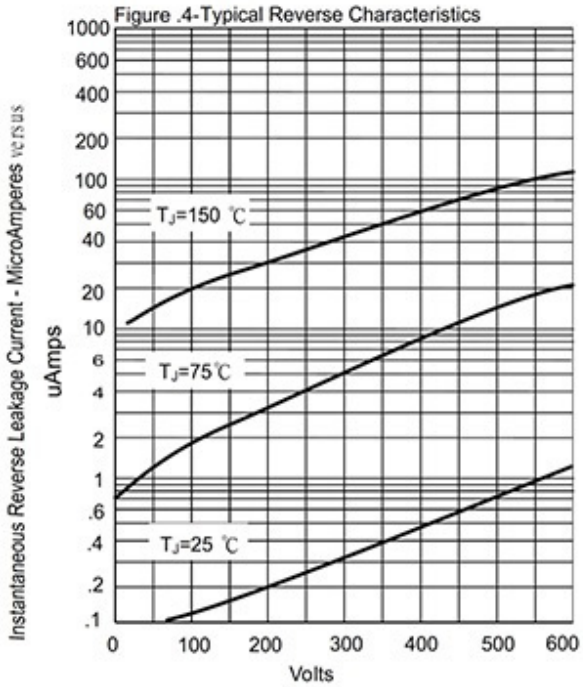
Case Temperature - °C

Figure .3-Peak Forward Surge Current



Number Of Cycles At 60Hz - Cycles

Figure .4-Typical Reverse Characteristics



Reverse Voltage - Volts