

**Silicon Fast
Recovery Diode**
**1N3889 thru
1N3893R**
 $V_{RRM} = 50\text{ V} - 400\text{ V}$
 $I_F = 12\text{ A}$
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 $T_J = 25\text{ }^\circ\text{C}$, 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	$T_C \leq 100\text{ }^\circ\text{C}$	12	12	12	12	12	A
Surge non-repetitive forward current, Half Sine Wave	I_{FSM}	$T_C = 25\text{ }^\circ\text{C}$, $t_p = 8.3\text{ ms}$	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	$^\circ\text{C}$
Storage temperature	T_{stg}		-65 to 175	-65 to 175	-65 to 175	-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	1N3889 (R)	1N3890 (R)	1N3891 (R)	1N3892 (R)	1N3893 (R)	Unit
Diode forward voltage	V_F	$I_F = 12\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$	1.4	1.4	1.4	1.4	1.4	V
Reverse current	I_R	$V_R = 50\text{ V}$, $T_J = 25\text{ }^\circ\text{C}$	25	25	25	25	25	μA
		$V_R = 50\text{ V}$, $T_J = 150\text{ }^\circ\text{C}$	6	6	6	6	6	mA

Recovery Time

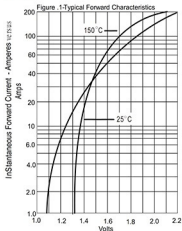
Parameter	Symbol	Conditions	1N3889 (R)	1N3890 (R)	1N3891 (R)	1N3892 (R)	1N3893 (R)	Unit
Maximum reverse recovery time	T_{RR}	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{RR} = 0.25\text{ A}$	200	200	200	200	200	nS

Thermal characteristics

Parameter	Symbol	Conditions	1N3889 (R)	1N3890 (R)	1N3891 (R)	1N3892 (R)	1N3893 (R)	Unit
Thermal resistance, junction - case	$R_{\theta JC}$		2.0	2.0	2.0	2.0	2.0	$^\circ\text{C/W}$

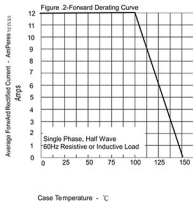


Figure 1-Typical Forward Characteristics



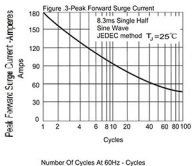
Instantaneous Forward Voltage - Volts

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

