

**Silicon Fast
Recovery Diode**

$V_{RRM} = 50 \text{ V} - 400 \text{ V}$

$I_F = 12 \text{ A}$

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 $T_J = 25^\circ\text{C}$, 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	$T_C \leq 100^\circ\text{C}$	12	12	12	12	12	A
Surge non-repetitive forward current, Half Sine Wave	I_{FSM}	$T_C = 25^\circ\text{C}$, $t_p = 8.3 \text{ ms}$	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 $T_J = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	1N3889 (R)	1N3890 (R)	1N3891 (R)	1N3892 (R)	1N3893 (R)	Unit
Diode forward voltage	V_F	$I_F = 12 \text{ A}$, $T_J = 25^\circ\text{C}$	1.4	1.4	1.4	1.4	1.4	V
Reverse current	I_R	$V_R = 50 \text{ V}$, $T_J = 25^\circ\text{C}$	25	25	25	25	25	μA
		$V_R = 50 \text{ V}$, $T_J = 150^\circ\text{C}$	6	6	6	6	6	mA

Recovery Time

Maximum reverse recovery time	T_{RR}	$I_F = 0.5 \text{ A}$, $I_R = 1.0 \text{ A}$, $I_{RR} = 0.25 \text{ A}$	200	200	200	200	200	nS
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Thermal characteristics

Thermal resistance, junction - case	$R_{\theta JC}$	2.0	2.0	2.0	2.0	2.0	$^\circ\text{C/W}$
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