

Features

- High Surge Capability
- Types up to 600 V V_{RRM}

DO-5 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	FR30A(R)02	FR30B(R)02	FR30D(R)02	FR30G(R)02	FR30J(R)02	Unit
Repetitive peak reverse voltage	V_{RRM}		50	100	200	400	600	V
RMS reverse voltage	V_{RRM}		35	70	140	280	420	V
DC blocking voltage	V_{DC}		50	100	200	400	600	V
Continuous forward current	I_F	$T_C \leq 100\text{ }^\circ\text{C}$	30	30	30	30	30	A
Surge non-repetitive forward current, Half Sine Wave	I_{FSM}	$T_C = 25\text{ }^\circ\text{C}$, $t_p = 8.3\text{ ms}$	300	300	300	300	300	A
Operating temperature	T_J		-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	FR30A(R)02	FR30B(R)02	FR30D(R)02	FR30G(R)02	FR30J(R)02	Unit
Diode forward voltage	V_F	$I_F = 30\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$	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
		$V_R = 50\text{ V}$, $T_J = 125\text{ }^\circ\text{C}$	10	10	10	10	10	mA

Recovery Time

Maximum reverse recovery time	T_{RR}	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $t_{RR} = 0.25\text{ A}$	200	200	200	200	250	nS
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Thermal characteristics

Thermal resistance, junction - case	$R_{\theta JC}$		0.46	0.46	0.46	0.46	0.46	$^\circ\text{C/W}$
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Figure 1-Typical Forward Characteristics

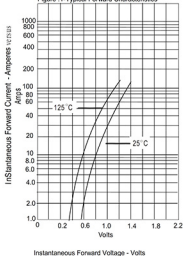
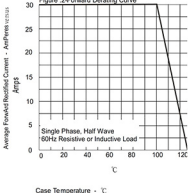


Figure 2-Forward Derating Curve



Instantaneous Forward Voltage - Volts

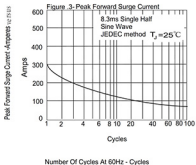


Figure 4-Typical Reverse Characteristics

