FAST RECOVER DIODE

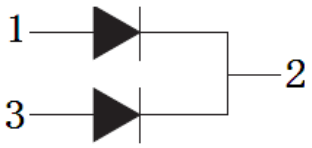
Features

- Fast Recovery . . . . . trr=27ns
- Operating Temperature . . . . . 150℃
- Reverse Voltage. 600V
- Avalanche Energy Rated

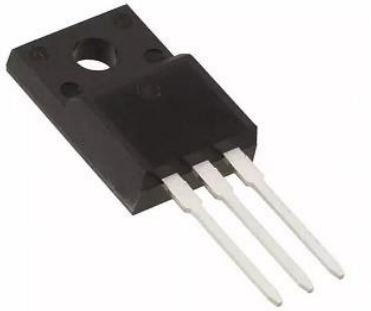
Applications

- Switch Mode Power Supplies
- Hard Switched PFC Boost Diode
- UPS Free Wheeling Diode
- Motor Drive FWD
- SMPS FWD

Package



TO-3PF



Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
$I_{F(AV)}$	Diode Continuous Forward Current (T_C=100℃)	20	A
I_{FRMSS}	Repetitive Peak Surge Current (20kHz Square Wave)	40	A
I_{FSM}	Nonrepetitive Peak Surge Current for Per Diode (Halfwave 1 Phase 50Hz)	120	A
T_J	Operating JunctionTemperatureRange	-55 to +150	℃
T_{STG}	StorageTemperatureRange	-55 to +150	℃

ELECTRICAL SPECIFICATIONS (TJ = 25 °C unless otherwise specified for Per Diode)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_R	Cathode to Anode Breakdown Voltage	I_R = 100μA	600			
V_F	Diode Forward Voltage	I_F=10AT_C=25℃		1.35	1.75	V
	Diode Forward Voltage	I_F=10AT_C=125℃		1.15		V
I_{RM}	Maximum Reverse Leakage Current	V_R=600VT_C=25℃			100	μA
		V_R=600VT_C=125℃			1	mA

DYNAMIC RECOVERY CHARACTERISTICS(TJ = 25 °C unless otherwise specified)						
Symbol	**Parameter**	**Test Conditions**	**Min.**	**Typ.**	**Max.**	**Units**
I_{RRM}	Diode Peak Reverse Recovery Current	V_{DD}=30V;I_F=1A; dif/dt=100A/μs; See **Fig.4**		0.76	0.85	A
Qrr	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} andtrr).			11.5	13	nc
trr	Diode Reverse Recovery Time			27	30	ns
S	S=tb/ta			0.75		
I_{RRM}	Diode Peak Reverse Recovery Current	V_{DD}=400V;I_F=10A; dif/dt=500A/μs; See **Fig.4**		6.8	7.5	A
Qrr	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} andtrr).			115	130	nc
trr	Diode Reverse Recovery Time			31	35	ns
S	S=tb/ta			1.2		

Fig.1 Forward Current vs Forward Voltage

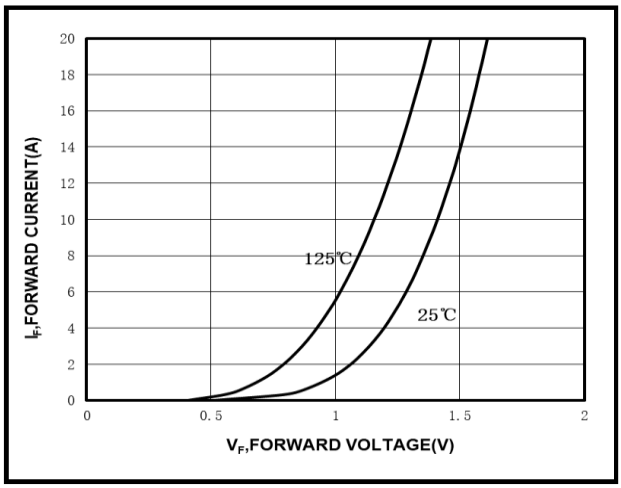


Fig.2 Reverse Current vs Reverse Voltage

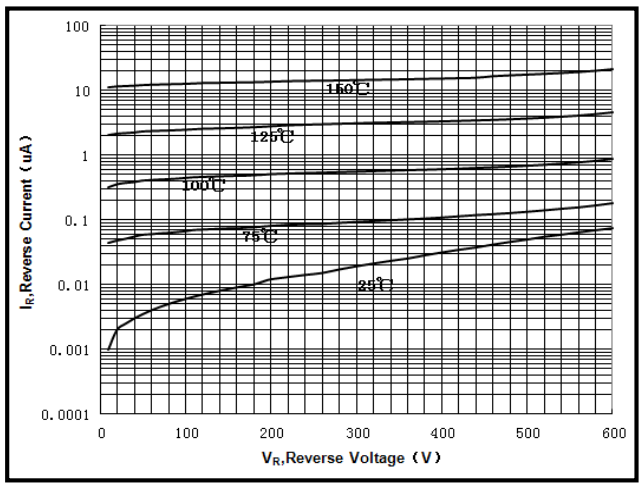


Fig.3 trr Test Circuit

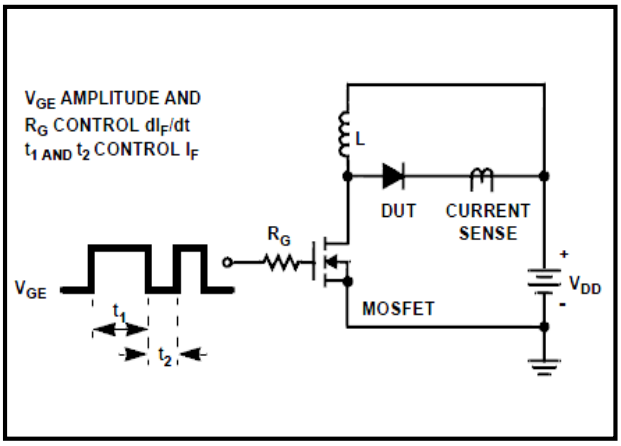
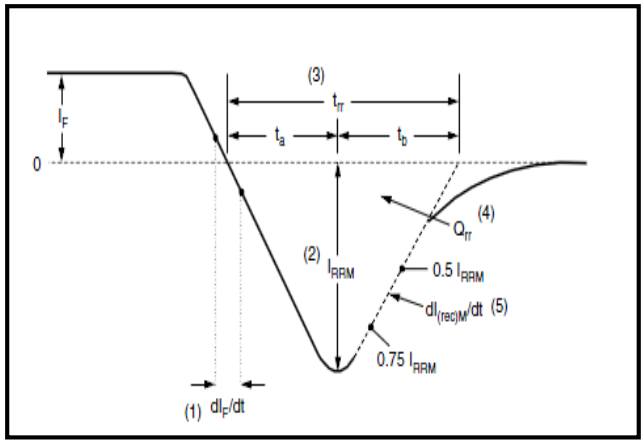


Fig.4 trr Waveforms and Definitions



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