

FAST RECOVER DIODE

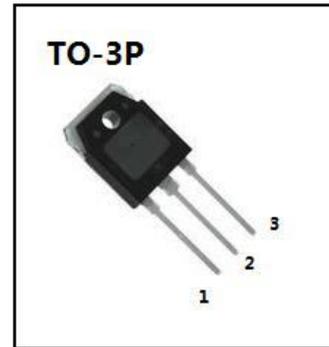
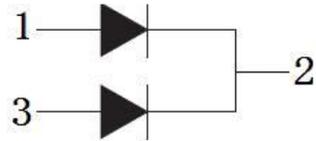
Features

- Fast Recovery trr < 45ns
- Operating Temperature 150°C
- 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



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 °C)	30	A
I _{FRM}	Repetitive Peak Surge Current (20kHz Square Wave)	60	A
I _{FSM}	Nonrepetitive Peak Surge Current for Per Diode (Halfwave 1 Phase 60Hz)	250	A
T _J	Operating Junction Temperature Range	-55 to +150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL SPECIFICATIONS (T _J = 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 =15A T _C =25°C		1.4	3.0	V
	Diode Forward Voltage	I _F =15A T _C =125°C		1.2	2.5	V
I _{RM}	Maximum Reverse Leakage Current	V _R =600V T _C =25°C			100	μA
		V _R =600V T _C =125°C			10	mA

DYNAMIC RECOVERY CHARACTERISTICS($T_J = 25\text{ }^\circ\text{C}$ unless otherwise specified for Per Diode)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
I_{RRM}	Diode Peak Reverse Recovery Current	$V_{DD}=100\text{V}; I_F=1\text{A};$ $dif/dt=200\text{A}/\mu\text{s};$ See Fig.4		4.3		A
Q_{rr}	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} and trr).			80		nC
trr	Diode Reverse Recovery Time			35	45	ns
S	$S=tb/ta$			0.8		
I_{RRM}	Diode Peak Reverse Recovery Current	$V_{DD}=300\text{V}; I_F=15\text{A};$ $dif/dt=500\text{A}/\mu\text{s};$ See Fig.4		11.5		A
Q_{rr}	Reverse recovery charge (Area Under the Curve Defined by I_{RRM} and trr).			500		nC
trr	Diode Reverse Recovery Time			75		ns
S	$S=tb/ta$			1.3		

Fig.1 Forward Current vs Forward Voltage(Per Diode)

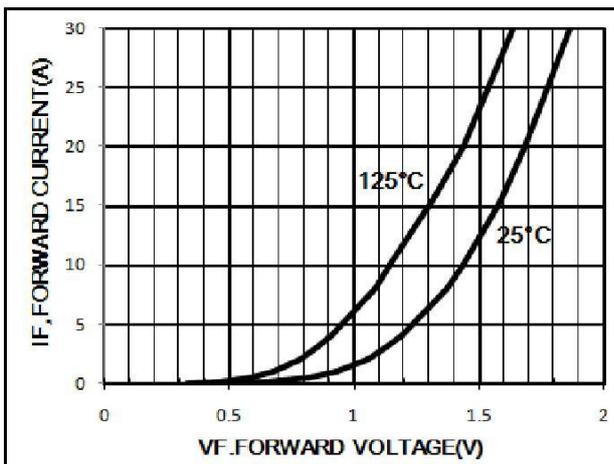


Fig.2 Reverse Current vs Reverse Voltage

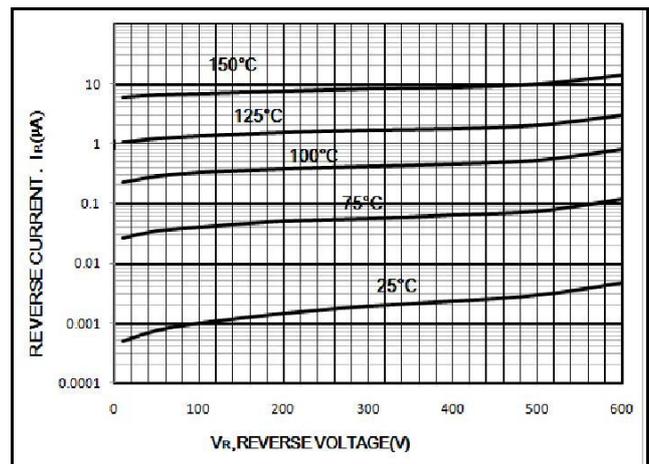


Fig.3 trr Test Circuit

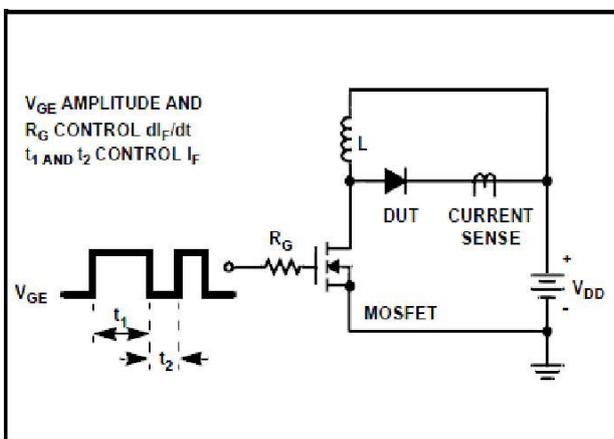
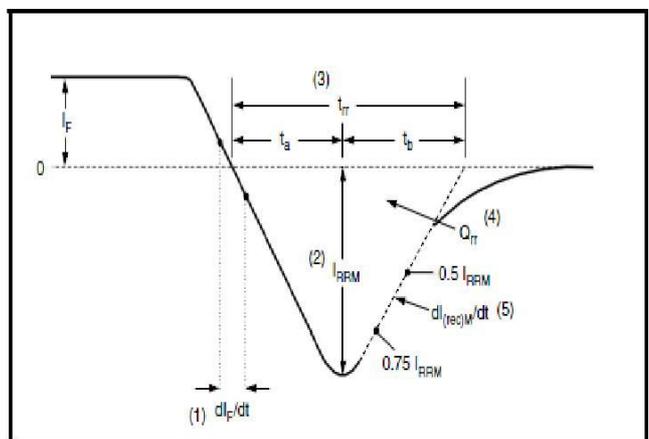


Fig.4 trr Waveforms and Definitions



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