

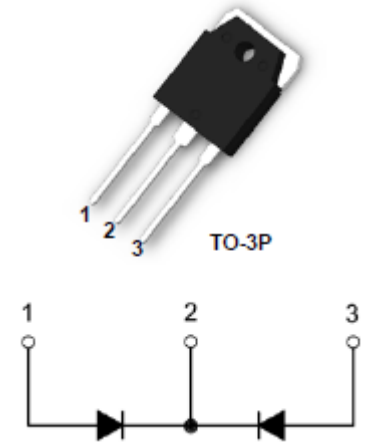
FAST RECOVER DIODE

Features

- 400V,80A
- Soft Recovery
- Operation Temperature < 150°C
- Planar Construction

Applications

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS



Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_R	Maximum D.C. Reverse Voltage	400	V
V_{RRM}	Maximum Repetitive Reverse Voltage	400	V
$I_{F(AV)}$	Continuous Forward Current Per Diode ($T_C=100\text{ }^\circ\text{C}$)	40	A
	Continuous Forward Current Per Package($T_C=100\text{ }^\circ\text{C}$)	80	A
I_{FRMS}	RMS Forward Current ($T_C=100\text{ }^\circ\text{C}$)	56	A
I_{FSM}	Non-Repetitive Surge Forward Current	400	A
P_D	Power Dissipation	156	W
T_J	Operating Junction Temperature Range	-55 to +175	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to +175	$^\circ\text{C}$
R_{thJC}	Thermal Resistance	0.8	$^\circ\text{C/W}$

Electrical Characteristics ($T_C=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
V_F	Diode Forward Voltage	$I_F=40\text{A } T_C=25^\circ\text{C}$		1.05	1.3	V
	Diode Forward Voltage	$I_F=40\text{A } T_C=125^\circ\text{C}$		0.95	1.2	V
IR	Instantaneous reverse current	$V_R=400\text{V}$			10	μA
I_{RRM}	Diode peak Reverse Recovery Current	$I_F=1\text{A}$		1.7		A
t_{rr}	Diode Reverse Recovery Time	$di_F/dt=200\text{A}/\mu\text{s}$		50		ns
Q_{RR}	Diode Reverse Recovery Charge	$V_R=30\text{V}$		50		nC
I_{RRM}	Diode peak Reverse Recovery Current	$I_F=40\text{A},$		8.2		A
t_{rr}	Diode Reverse Recovery Time	$di_F/dt=200\text{A}/\mu\text{s}$		100		ns
Q_{RR}	Diode Reverse Recovery Charge	$V_R=200\text{V}$		400		nC

Fig.1 Forward Current vs Forward Voltage

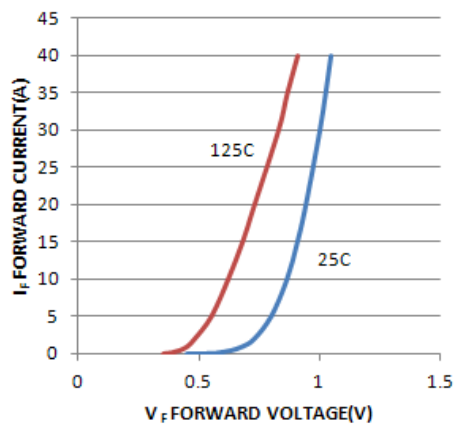


Fig.2 Reverse Current vs Reverse Voltage

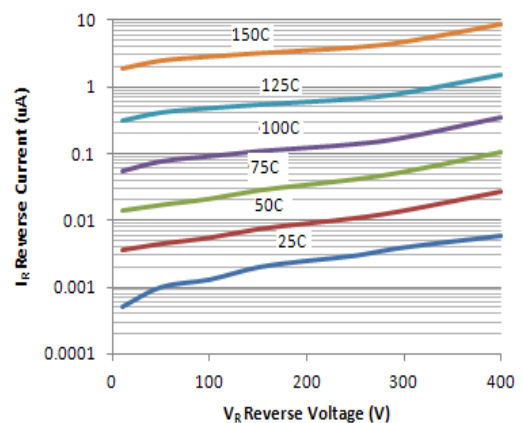


Fig.3 t_{rr} Test Circuit

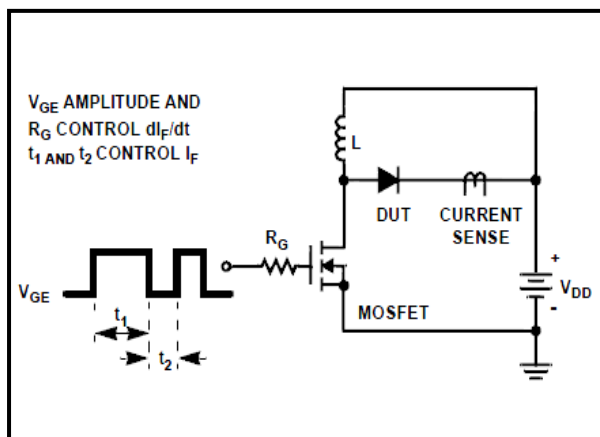


Fig.4 t_{rr} Waveforms and Definitions

