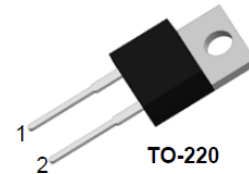


## FAST RECOVER DIODE

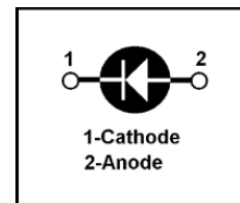
### Features

- 600V,30A
- Guarding for over voltage protection
- Metal of silicon rectifier,majority carrier conduction
- Low forward voltage,high efficiency



### Applications

- Switching power supply
- Rectifier in switch mode supplies



## Absolute Maximum Ratings

Symbol	Parameter	Value	Units
$V_R$	Maximum D.C. Reverse Voltage	600	V
$V_{RRM}$	Maximum Repetitive Reverse Voltage	600	V
$I_{F(AV)}$	Diode Continuous Forward Current ( $T_C=100^\circ\text{C}$ )	30	A
$I_{FRMS}$	RMS Forward Current ( $T_C=100^\circ\text{C}$ )	42	A
$I_{FSM}$	Non-Repetitive Surge Forward Current	150	A
$P_D$	Power Dissipation	100	W
$T_J$	Operating Junction Temperature Range	-40 to +175	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-40 to +175	$^\circ\text{C}$
$R_{thJC}$	Thermal Resistance	1.5	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
$V_F$	Diode Forward Voltage	$I_F=15\text{A } T_C=25^\circ\text{C}$		1.2	1.5	V
	Diode Forward Voltage	$I_F=15\text{A } T_C=125^\circ\text{C}$		1.1	1.5	V
IR	Instantaneous reverse current	$V_R=600\text{V}$			10	$\mu\text{A}$
$I_{RRM}$	Diode peak Reverse Recovery Current	$I_F=1\text{A}$		1.6		A
$t_{rr}$	Diode Reverse Recovery Time	$di_F/dt=200\text{A}/\mu\text{s}$		60		ns
$Q_{RR}$	Diode Reverse Recovery Charge	$V_R=30\text{V}$		40		nC
$I_{RRM}$	Diode peak Reverse Recovery Current	$I_F=15\text{A}$ ,		8.8		A
$t_{rr}$	Diode Reverse Recovery Time	$di_F/dt=200\text{A}/\mu\text{s}$		120		ns
$Q_{RR}$	Diode Reverse Recovery Charge	$V_R=300\text{V}$		570		nC

Fig.1 Forward Current vs Forward Voltage

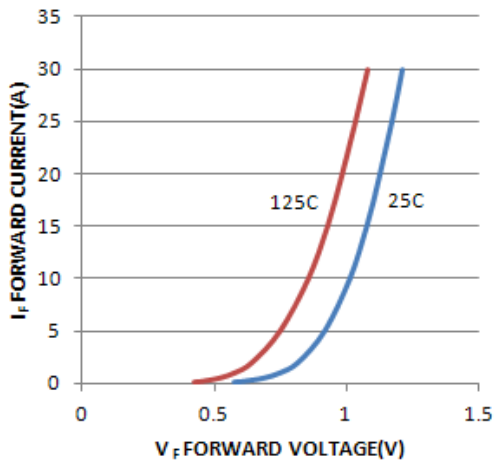


Fig.2 Reverse Current vs Reverse Voltage

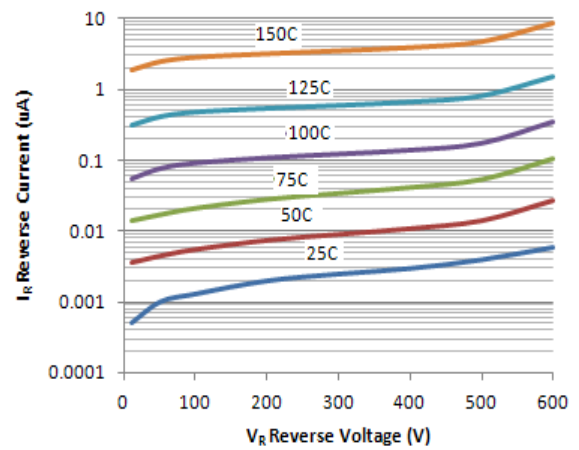


Fig.3  $t_{rr}$  Test Circuit

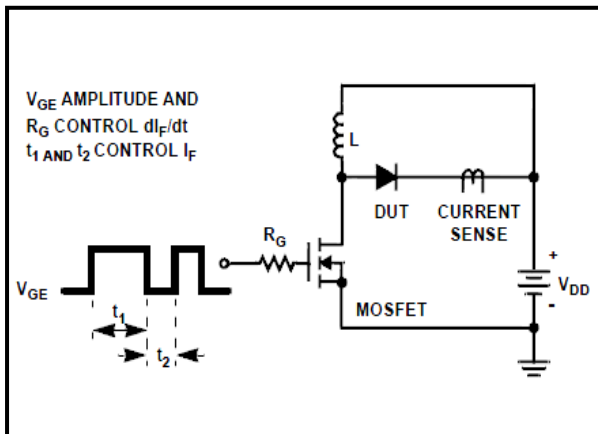


Fig.4  $t_{rr}$  Waveforms and Definitions

