

快恢复二极管/Fast Recovery Diode

特点:

- 超快反向恢复 trr = 28ns
- 抗高浪涌性能
- 200V 反向耐压
- 符合 RoHS

Features

- Fast Recovery trr = 28ns
- HIGH SURGE CAPABILITY
- Reverse Voltage 200V
- RoHS COMPLIANT

Package

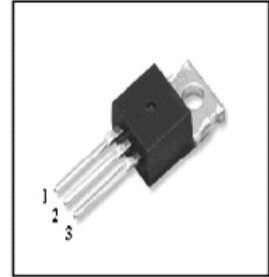


应用:

- 开关电源
- 硬开关 PFC 升压
- 不间断电源续流管
- 电机驱动续流管

Applications

- SMPS
- Hard Switched PFC Boost Diode
- UPS Free Wheeling Diode
- Motor Drive FWD



●最大额定值 (T_J=25°C, 另有说明除外)

TO-220

●Absolute Maximum Ratings (T_c=25°C, unless otherwise specified)

TO-220

符号 Symbol	参数 Parameter	额定值 Value	单位 Units
V _{RRM}	可重复反向峰值电压 Peak Repetitive Reverse Voltage	200	V
I _{F(AV)}	连续正向电流 (100°C) Diode Continuous Forward Current (T _c =100 °C)	20	A
I _{FRM}	可重复峰值浪涌电流 (20kHz 方波) Repetitive Peak Surge Current (20kHz Square Wave)	40	A
I _{FSM}	单个二极管不重复峰值浪涌电流 (单相半波50Hz) Nonrepetitive Peak Surge Current for Per Diode (Halfwave 1 Phase 50Hz)	290	A
T _J	工作结温 Operating Junction Temperature Range	-55 to +150	°C
T _{STG}	存储温度 Storage Temperature Range	-55 to +150	°C

●电特性 (T_J=25°C, 另有说明除外)

●Electronic Characteristics (T_J = 25 °C unless otherwise specified for Per Diode)

符号 Symbol	参数名称 Parameter	测试条件 Test Conditions	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Units
V _R	反向电压 Cathode to Anode Breakdown Voltage	I _R = 100 μA	200			
V _F	正向压降 Diode Forward Voltage	I _F =10A T _J =25°C		0.88	0.95	V
		I _F =10A T _J =125°C		0.78	0.85	V
I _{RM}	最大反向恢复电流 Maximum Reverse Leakage Current	V _R =200V T _J =25°C			100	μA
		V _R =200V T _J =125°C			1	mA

●动态反向恢复参数 ($T_J=25^{\circ}\text{C}$, 另有说明除外)

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

符号 Symbol	参数名称 Parameter	测试条件 Test Conditions	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Units
I_{RRM}	二极管反向峰值恢复电流 Diode Peak Reverse Recovery Current	$V_{DD}=30\text{V}; I_F=1\text{A}$ $dif/dt=100\text{A}/\mu\text{s};$ See Fig.4		1.7	2.0	A
Q_{rr}	反向恢复电荷 (由 I_{RRM} 和 t_{rr} 定义的面积) Reverse recovery charge (Area Under the Curve Defined by I_{RRM} and t_{rr}).			28	40	nc
t_{rr}	反向恢复时间 Diode Reverse Recovery Time		26	30	34	ns
S	反向恢复软度 $S = t_b/t_a$			0.46		
I_{RRM}	二极管反向峰值恢复电流 Diode Peak Reverse Recovery Current	$V_{DD}=100\text{V}; I_F=10\text{A};$ $dif/dt=200\text{A}/\mu\text{s};$ See Fig.4		5	7	A
Q_{rr}	反向恢复电荷 (I_{RRM} 和 t_{rr} 定义的面积) Reverse recovery charge (Area Under the Curve Defined by I_{RRM} and t_{rr}).			95	110	nc
t_{rr}	反向恢复时间 Diode Reverse Recovery Time		30	33	36	ns
S	反向恢复软度 $S = t_b/t_a$			0.7		

●订单信息/ORDERING INFORMATION:

包装形式/PACKING	订货编码/ORDERING CODE	
	普通塑封料/ Normal Package Material	无卤塑封料/Halogen Free
TO-220 条管装/TUBE PACKING	FD20U20CT TO-220-TU	FD20U20CT TO-220-TU-HF

Fig.1 正向特性/Forward Current vs Forward Voltage

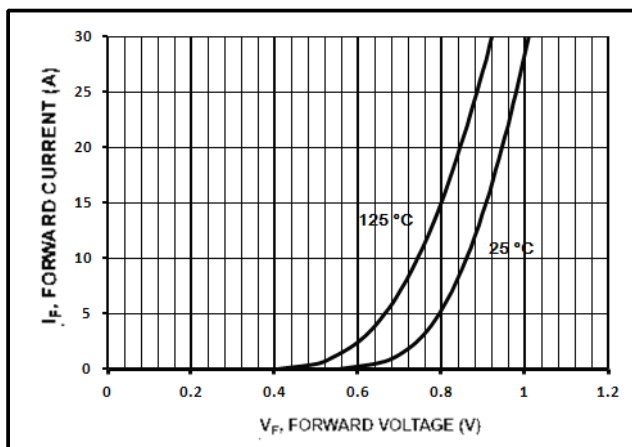


Fig.2 反向特性/Reverse Current vs Reverse Voltage

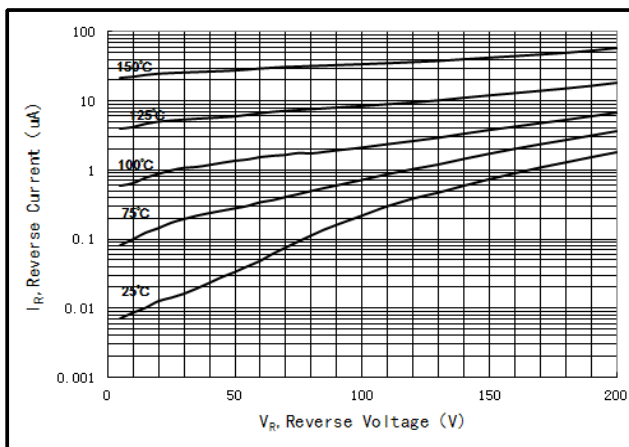


Fig.3 trr/测试电路/trr Test Circuit

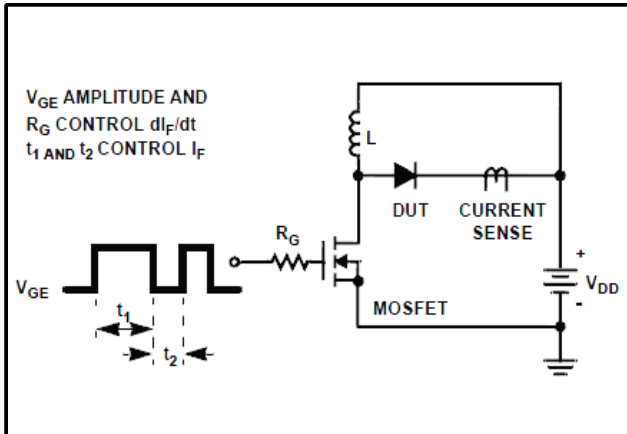
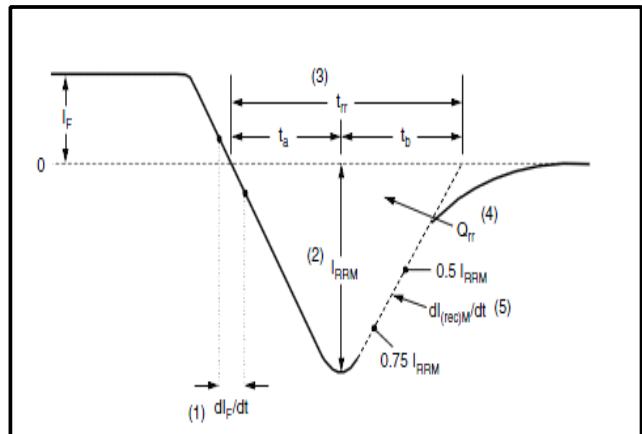


Fig.4 trr 波形与定义/trr Waveforms and Definitions



TO-220 封装机械尺寸

TO-220 MECHANICAL DATA

单位：毫米/UNIT: mm

符号 SYMBOL	最小值 min	典型值 nom	最大值 max	符号 SYMBOL	最小值 min	典型值 nom	最大值 max
A	4.00		4.80	E	9.90		10.70
B	1.20		1.50	e		2.54	
B1	1.00		1.40	F	1.10		1.45
b1	0.65		1.00	L	12.50		14.50
c	0.35		0.75	L1	3.00	3.50	4.00
D	15.00		16.50	Q	2.50		3.00
D1	5.90		6.90	Q1	2.00		3.00
				φP	3.60		3.90

