

RJQ6008DPM

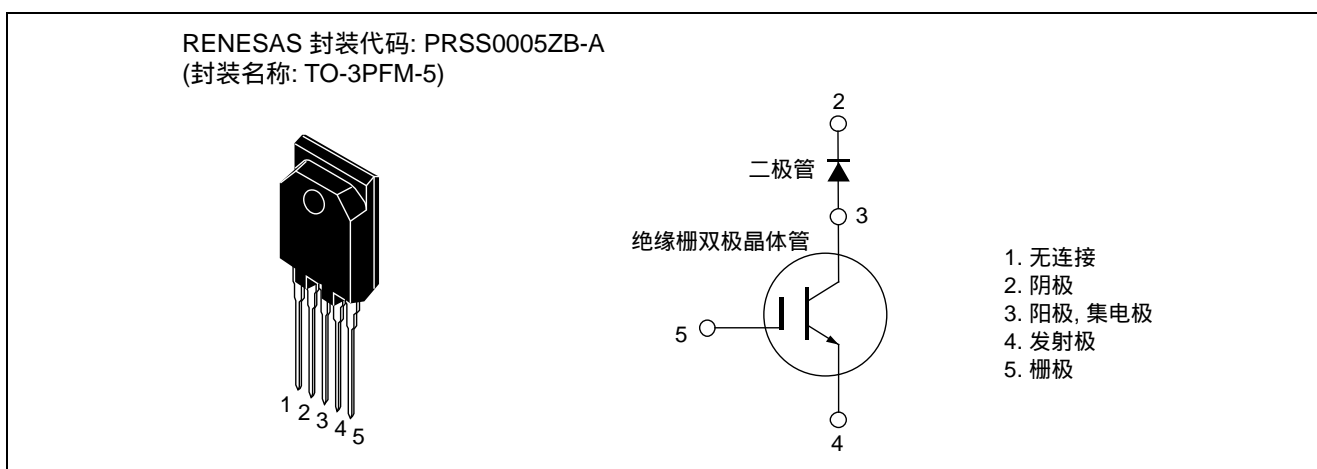
600V - 10A - 绝缘栅双极晶体管及二极管
快速电源开关

R07DS0847CJ0100
修订版本 1.00
Oct 23, 2012

特点

- 低集电极/发射极饱和电压
 $V_{CE(sat)} = 2.65\text{ V}$ 典型值 ($I_C = 25\text{ A}$, $V_{GE} = 15\text{ V}$, $T_a = 25^\circ\text{C}$)
- 内置快速恢复二极管于一封装
- 沟槽栅与薄晶圆技术
- 快速开关时间

封装形式



绝对最大额定值

绝缘栅双极晶体管

($T_c = 25^\circ\text{C}$)

参数	符号	额定值	单位
集电极/发射极电压	V_{CES}	600	V
栅极/发射极电压	V_{GES}	± 30	V
集电极电流	$T_c = 25^\circ\text{C}$	I_C ^{注1}	20
	$T_c = 100^\circ\text{C}$	I_C ^{注1}	10
集电极脉冲电流	$I_{C(peak)}$ ^{注3}	100	A
集电极最大容许功率损耗	P_C ^{注2}	48	W
结壳热阻 (绝缘栅双极晶体管)	θ_{j-c}	2.3	$^\circ\text{C/W}$
结温	T_j	150	$^\circ\text{C}$
储存温度	T_{stg}	-55 to +150	$^\circ\text{C}$

- 注:
1. 限于 T_j 的最大值
 2. 在 $T_c = 25^\circ\text{C}$ 的容许值
 3. 脉宽限于最大安全工作区域。

二极管

(T_c = 25°C)

参数	符号	额定值	单位
最大反向电压	V _{RM}	600	V
正向平均整流电流	I _o	20	A
正向浪涌脉冲电流	PW = 10 ms	I _{FSM} ^{注4}	A
	PW = 1 ms	I _{FSM} ^{注5}	A
结壳热阻	θ _{j-cd}	3.0	°C/W
结温	T _j	150	°C
储存温度	T _{stg}	-55 to +150	°C

注: 4. 50 Hz 正弦半波, 不重复 1 周期值, T_j = 25°C5. PW = 1ms 正弦半波, 不重复脉冲值, T_j = 25°C

电特性

绝缘栅双极晶体管

(T_j = 25°C)

参数	符号	最小值	典型值	最大值	单位	测定条件
集电极/发射极短路电流	I _{CES}	—	—	10	μA	V _{CE} = 600 V, V _{GE} = 0
栅极/发射极漏泄电流	I _{GES}	—	—	±1	μA	V _{GE} = ±30 V, V _{CE} = 0
栅极/发射极截止电压	V _{GE(off)}	3.0	—	5.5	V	V _{CE} = 10 V, I _C = 1 mA
集电极/发射极饱和电压	V _{CE(sat)}	—	2.65	3.5	V	I _C = 25 A, V _{GE} = 15 V ^{注6}
	V _{CE(sat)}	—	3.2	—	V	I _C = 50 A, V _{GE} = 15 V ^{注6}
输入电容	C _{ies}	—	1800	—	pF	V _{CE} = 25 V
输出电容	C _{oes}	—	200	—	pF	V _{GE} = 0
反向传输电容	C _{res}	—	16	—	pF	f = 1 MHz
接通延迟时间	t _{d(on)}	—	48	—	ns	I _C = 30 A, 电阻负载
上升时间	t _r	—	68	—	ns	V _{CC} = 300 V
关断延迟时间	t _{d(off)}	—	95	—	ns	V _{GE} = 15 V
下降时间	t _f	—	55	—	ns	R _g = 5 Ω

注: 6. 脉冲测试

二极管

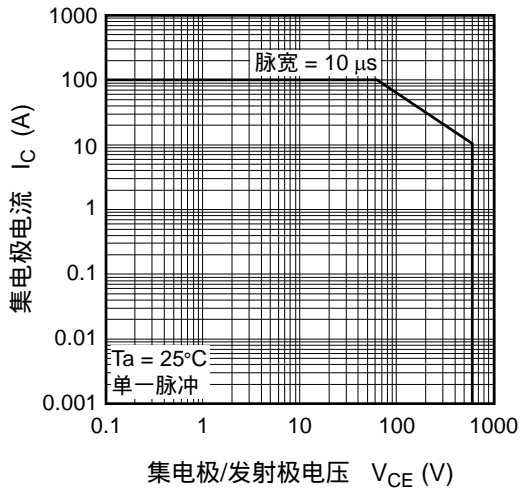
(T_j = 25°C)

参数	符号	最小值	典型值	最大值	单位	测定条件
正向电压	V _F	—	1.2	1.8	V	I _F = 20 A
反向电流	I _R	—	—	10	μA	V _R = 600 V
反向恢复时间	t _{rr}	—	100	—	ns	I _F = 20 A
快速恢复二极管反向恢复电荷	Q _{rr}	—	0.29	—	μC	di/dt = -100 A/μs
快速恢复二极管反向恢复脉冲电流	I _{rr}	—	5.9	—	A	

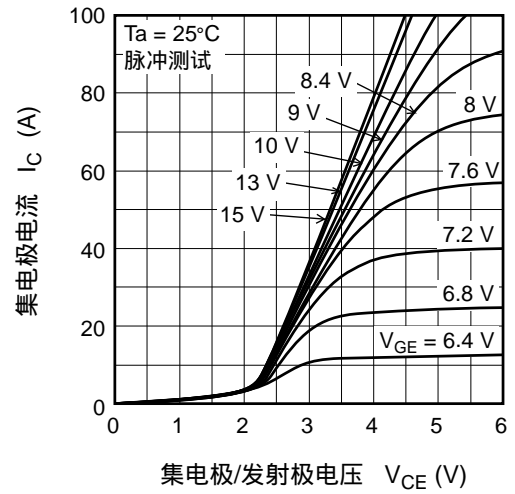
主要特性

绝缘栅双极晶体管

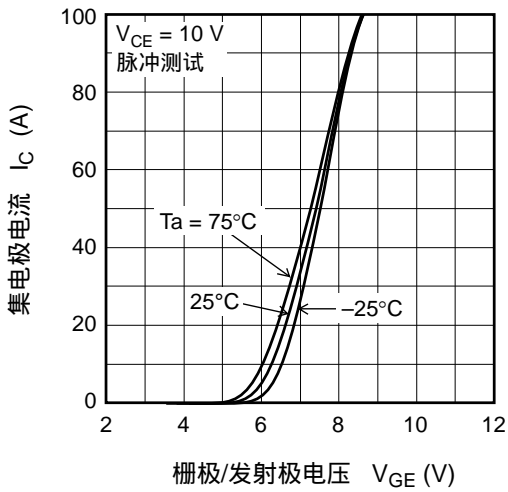
最大安全工作区域



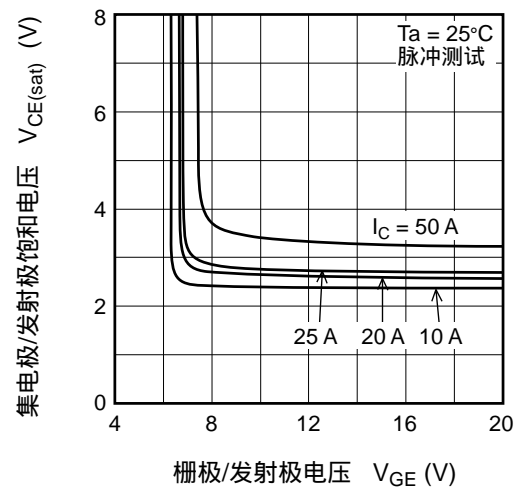
典型输出特性



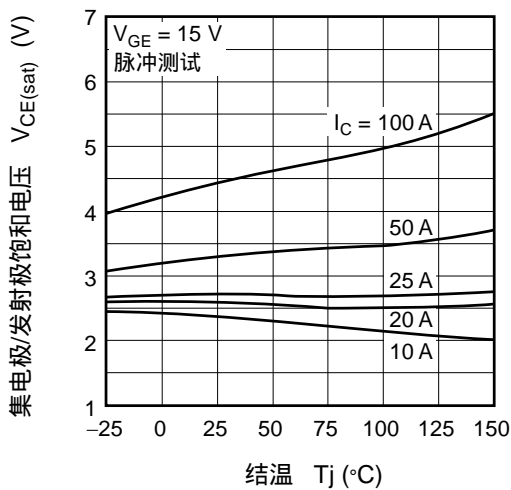
典型传输特性



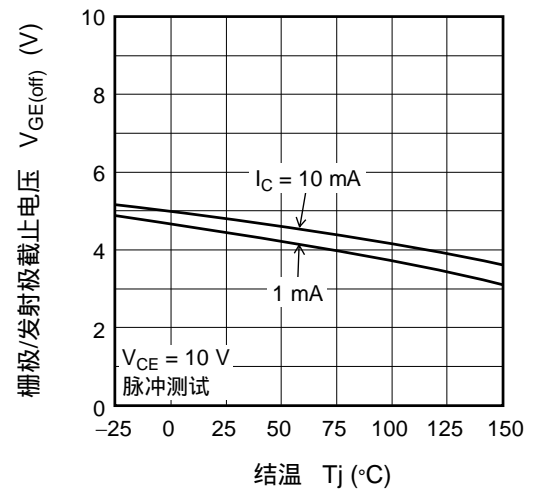
集电极/发射极饱和电压-栅极/发射极电压 (典型)



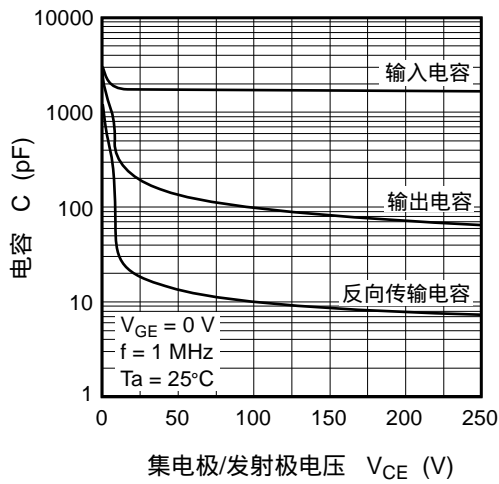
集电极/发射极饱和电压-结温 (典型)



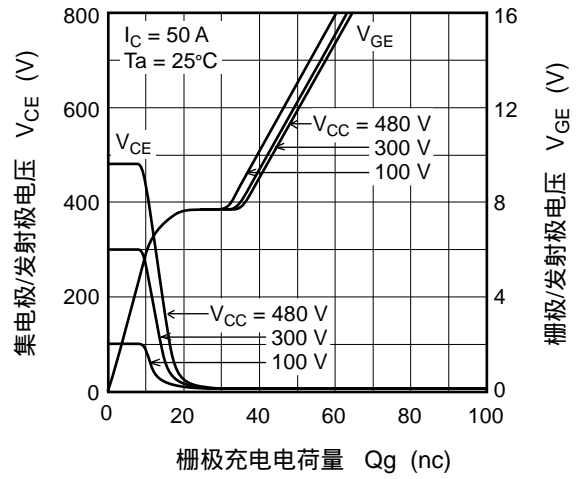
栅极/发射极截止电压-结温 (典型)



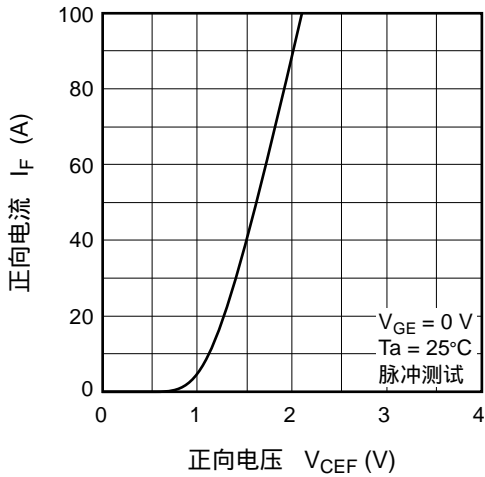
典型电容-集电极/发射极电压



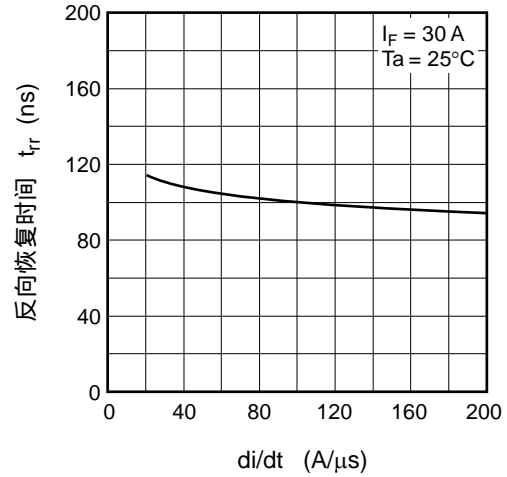
输入时序特性 (典型)



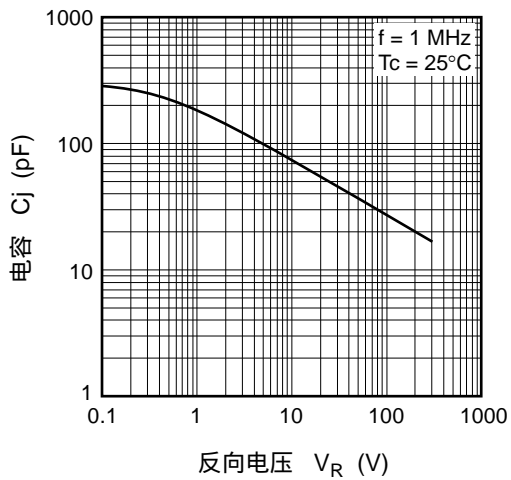
正向电流-正向电压 (典型)



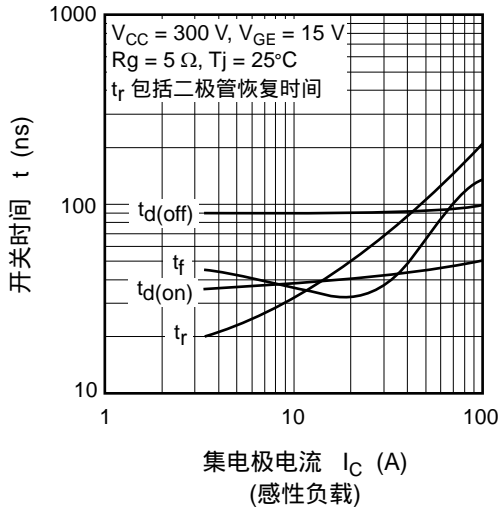
反向恢复时间-di/dt (典型)



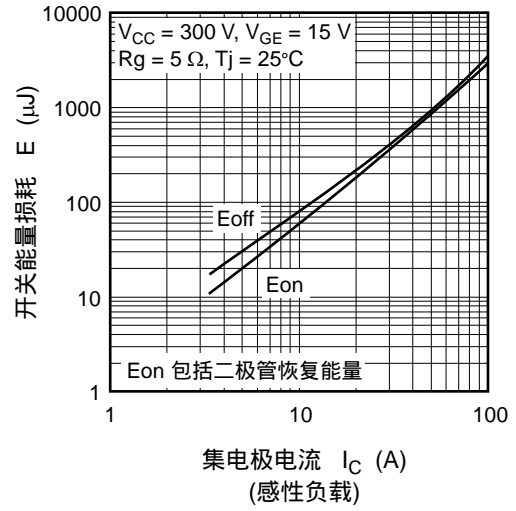
电容-反向电压 (典型)



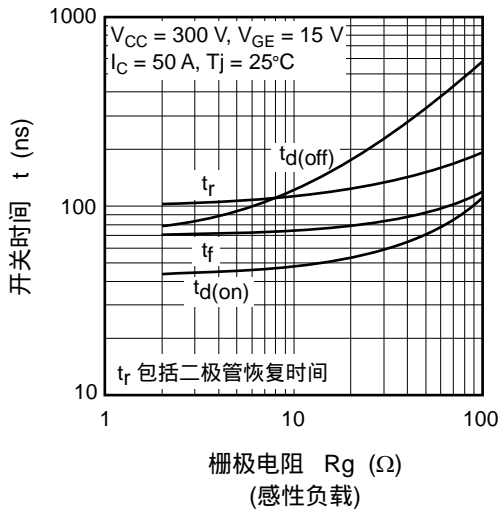
开关特性 (典型) (1)



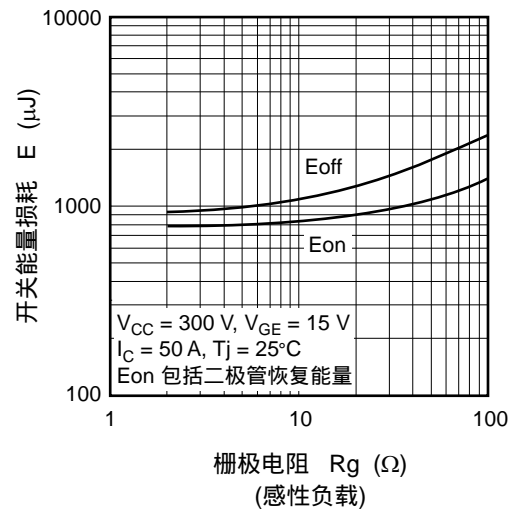
开关特性 (典型) (2)



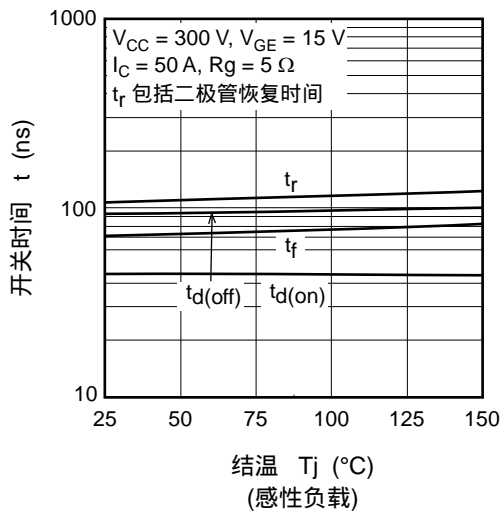
开关特性 (典型) (3)



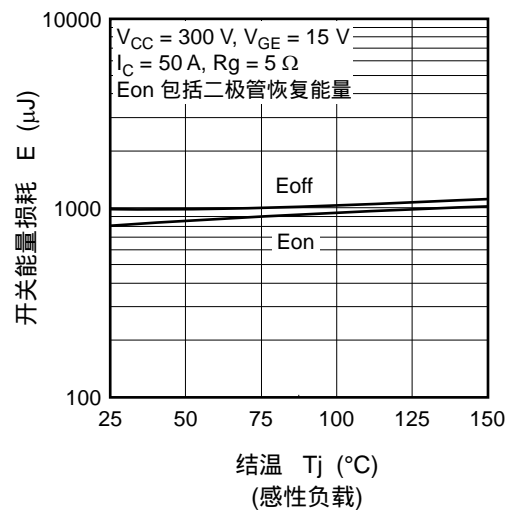
开关特性 (典型) (4)



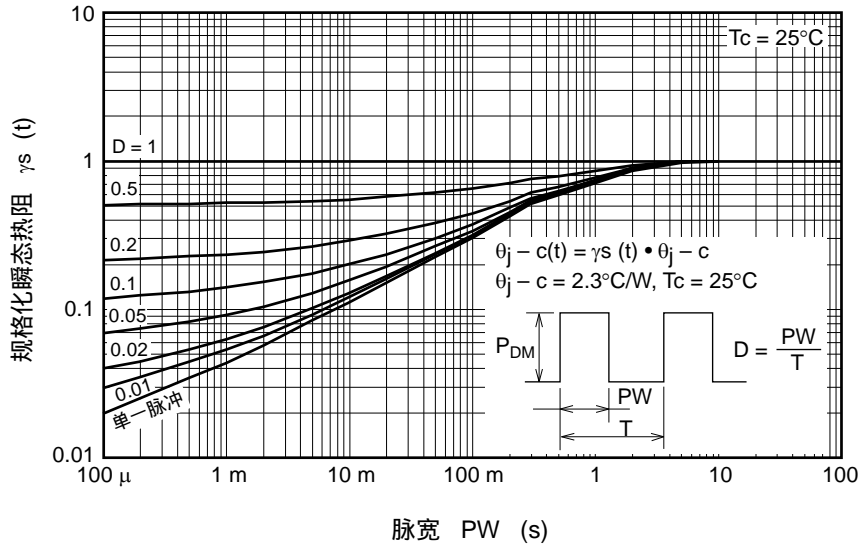
开关特性 (典型) (5)



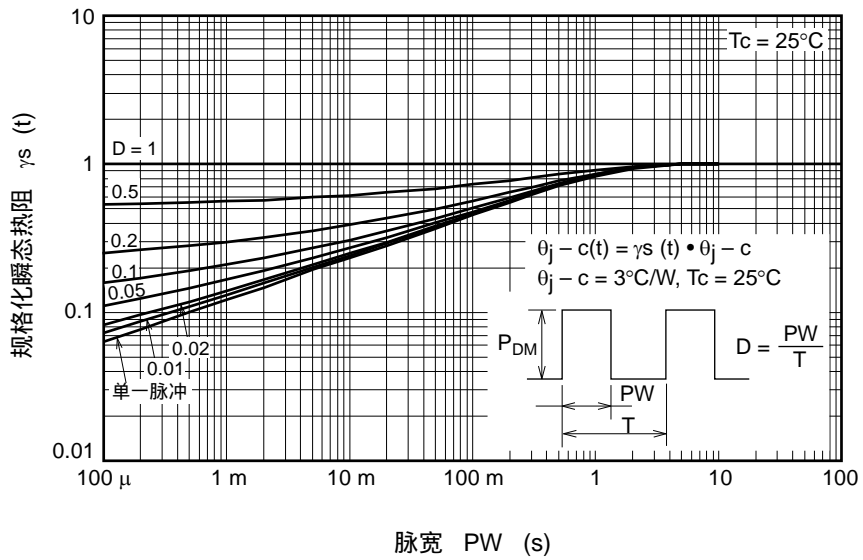
开关特性 (典型) (6)



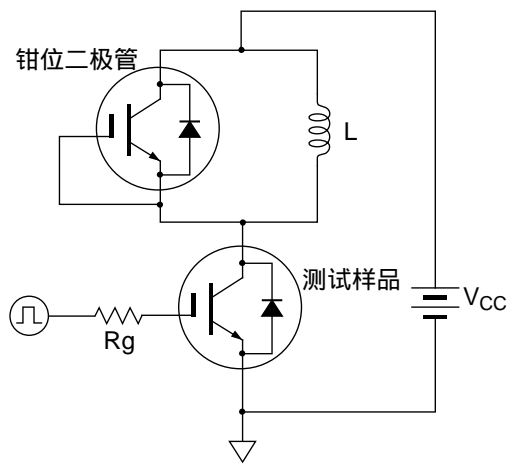
瞬态热阻特性规格化 (绝缘栅双极晶体管)



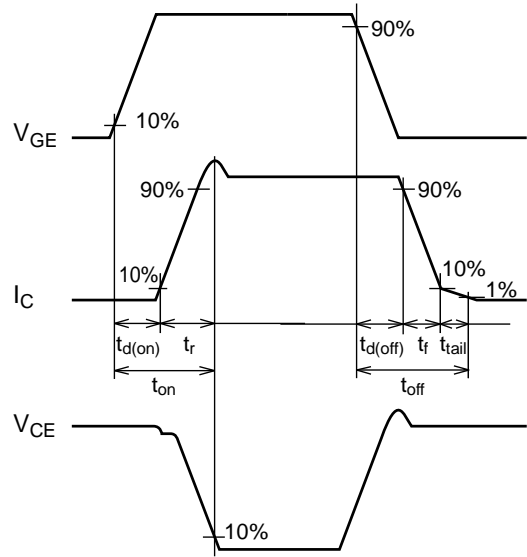
瞬态热阻特性规格化 (二极管)



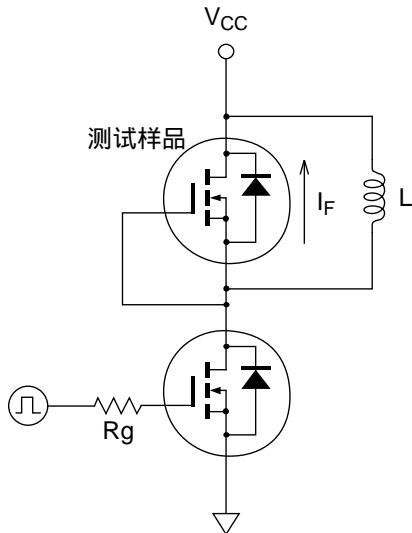
开关时间测定电路



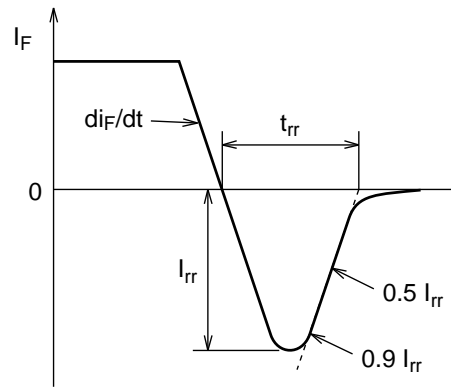
波形



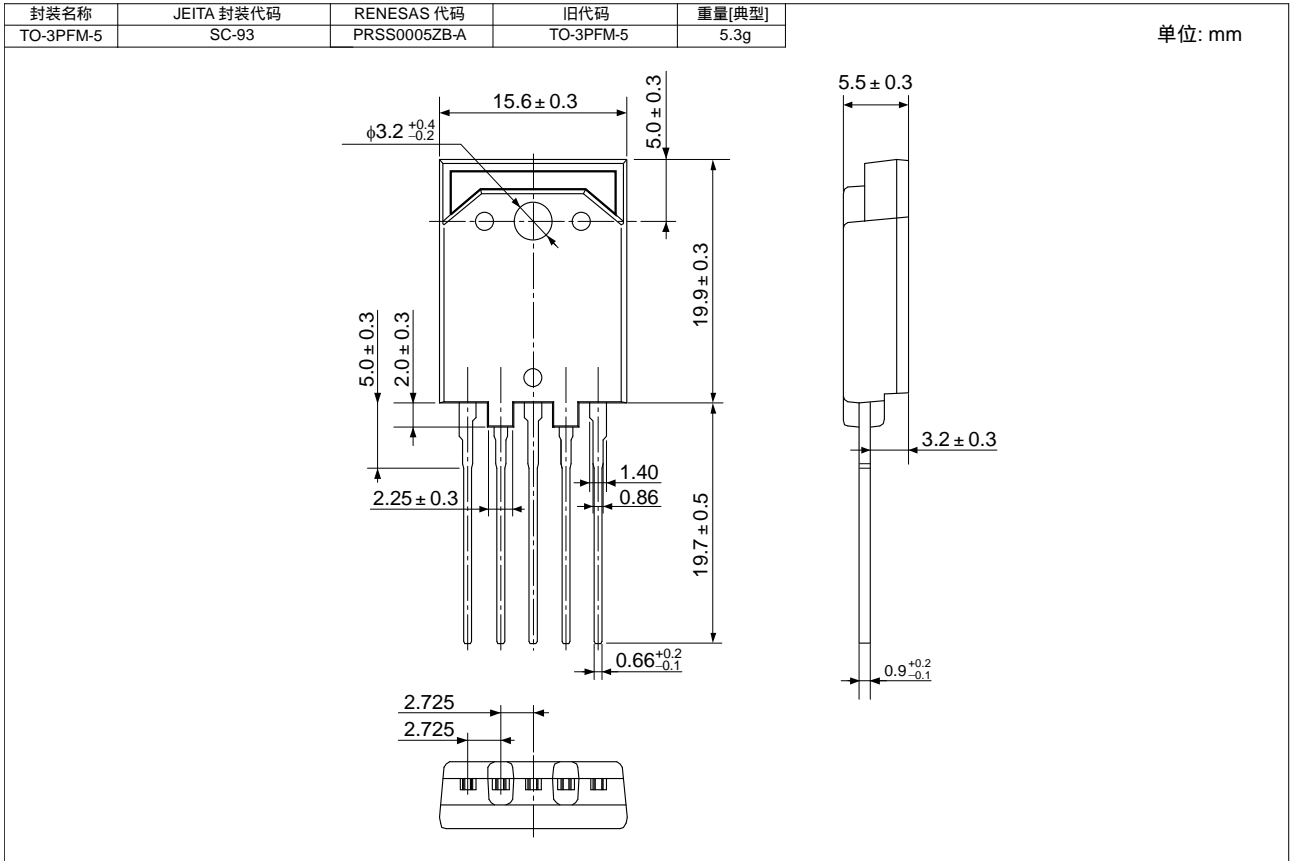
二极管反向恢复时间测定电路



波形



封装尺寸



订购信息

订购型号	数量	运输包装
RJQ6008DPM-00#T0	360 枚	纸盒包装 (管状容器)

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