H5N2507P

250V - 50A - 场效应晶体管
快速电源开关

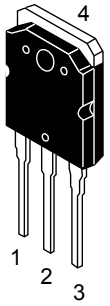
R07DS0877CJ0200
修订版本 2.00
Nov 12, 2012

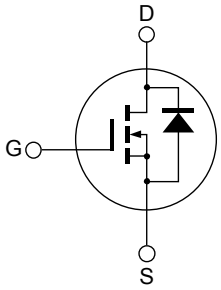
特点

- 低漏极/源极通态电阻
  $R_{DS(on)}$ = 0.04 Ω 典型值 (I_D = 25 A, V_{GS}= 10 V, Ta = 25°C)
- 低漏泄电流
- 快速开关时间
- 低栅极充电电荷量
- 内置快速恢复二极管

封装形式

RENESAS 封装代码: PRSS0004ZE-A
(封装名称: TO-3P)





1. 栅极
2. 漏极
3. 源极
4. 漏极

绝对最大额定值

(Ta = 25°C)

参数	符号	额定值	单位
漏极/源极电压	V_{DSS}	250	V
栅极/源极电压	V_{GSS}	±30	V
漏极电流	I_D	50	A
脉冲漏极电流	$I_{D\ (pulse)}$ 注 1	200	A
体二极管反向漏极电流	I_{DR}	50	A
雪崩电流	I_{AP} 注 3	35	A
沟道最大容许损耗	Pch 注 2	150	W
沟道-外壳间热阻	θch-c	0.833	°C/W
沟道温度	Tch	150	°C
储存温度	Tstg	–55 to +150	°C

注:
1. 在 PW ≤ 10 μs, 工作周期 ≤ 1% 的容许值
2. 在 Tc = 25°C 的容许值
3. STch = 25°C, Tch ≤ 150°C

电特性

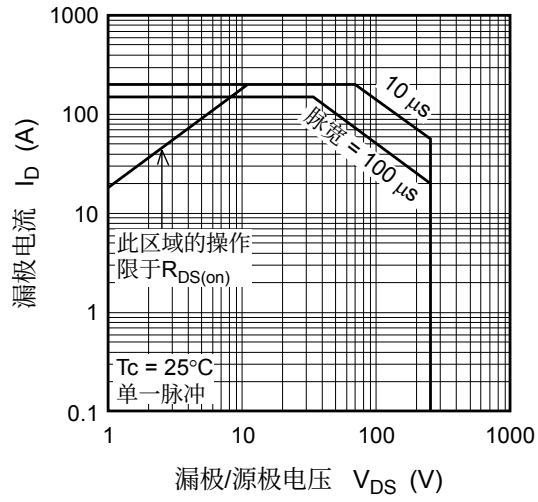
(Ta = 25°C)

参数	符号	最小值	典型值	最大值	单位	测定条件
漏极/源极破坏电压	$V_{(BR)DSS}$	250	—	—	V	I_D = 10 mA, V_{GS} = 0
漏极截止电流	I_{DSS}	—	—	10	μA	V_{DS} = 250 V, V_{GS} = 0
栅极截止电流	I_{GSS}	—	—	±0.1	μA	V_{GS} = ±30 V, V_{DS} = 0
栅极/源极截止电压	$V_{GS(off)}$	2.0	—	4.0	V	V_{DS} = 10 V, I_D = 1 mA
静态漏极/源极通态电阻	$R_{DS(on)}$	—	0.040	0.055	Ω	I_D = 25 A, V_{GS}= 10 V 注 4
正向传输导纳	$\|y_{fs}\|$	20	36	—	S	I_D = 25 A, V_{DS} = 10 V 注 4
输入电容	Ciss	—	5000	—	pF	V_{DS} = 25 V V_{GS} = 0 f = 1 MHz
输出电容	Coss	—	640	—	pF	
反向传输电容	Crss	—	105	—	pF	
接通延迟时间	$t_{d(on)}$	—	55	—	ns	I_D= 25 A V_{GS} = 10 V R_L = 5 Ω Rg = 10 Ω
上升时间	t_r	—	200	—	ns	
关断延迟时间	$t_{d(off)}$	—	250	—	ns	
下降时间	t_f	—	200	—	ns	
栅极充电电荷量	Qg	—	145	—	nC	V_{DD} = 200 V V_{GS} = 10 V I_D = 50 A
栅极/源极充电电荷量	Qgs	—	25	—	nC	
栅极/漏极充电电荷量	Qgd	—	65	—	nC	
体二极管正向电压	V_{DF}	—	1.0	1.5	V	I_F = 50 A, V_{GS} = 0 注 4
体二极管反向恢复时间	t_{rr}	—	145	—	ns	I_F = 50 A, V_{GS} = 0 di_F/dt = 100A/μs
体二极管反向恢复电荷	Q_{rr}	—	0.7	—	μC	

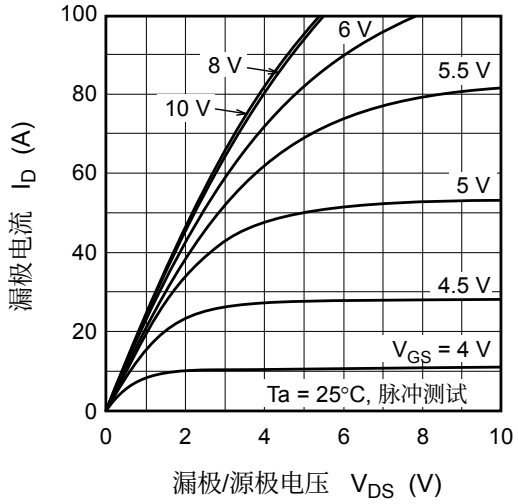
注: 4. 脉冲测试

主要特性

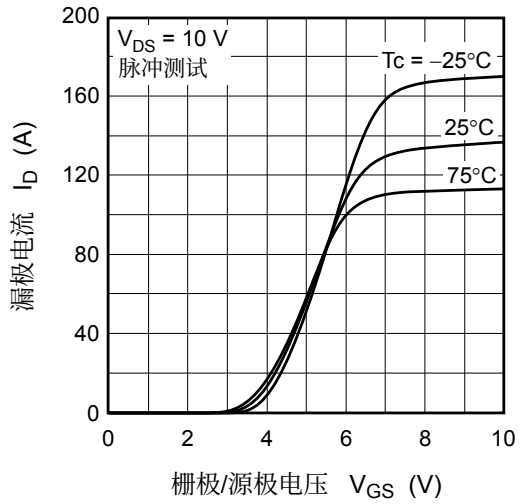
最大安全工作区域



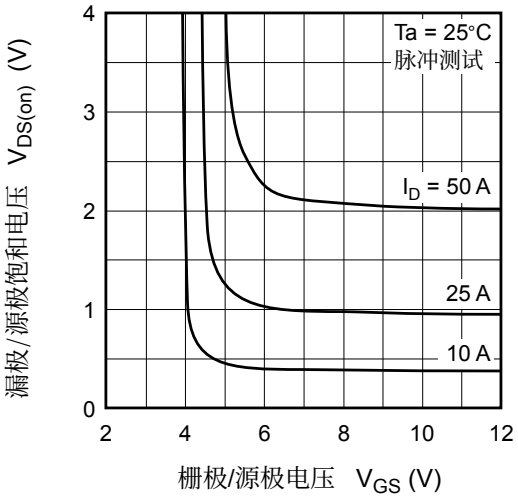
典型输出特性



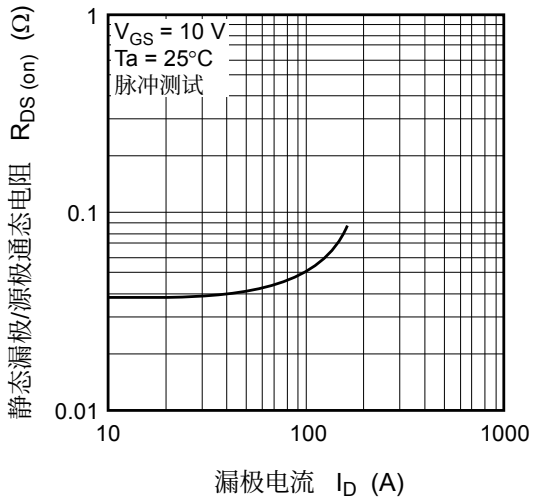
典型传输特性



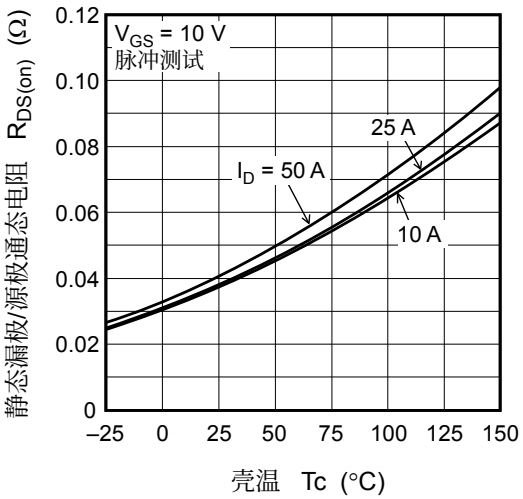
漏极/源极饱和电压-栅极/源极电压 (典型)



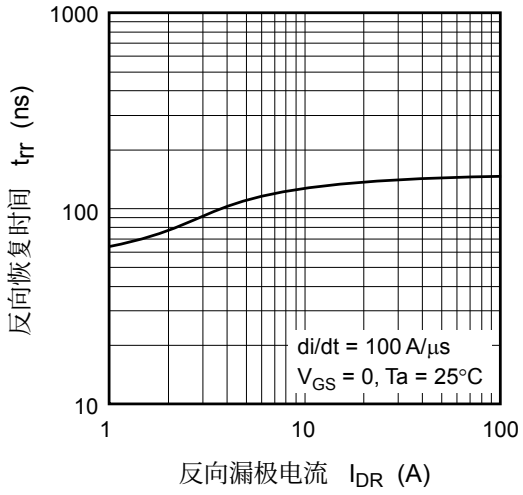
静态漏极/源极通态电阻-漏极电流 (典型)



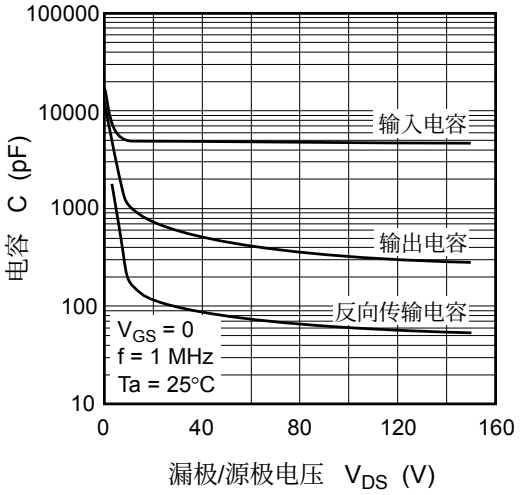
静态漏极/源极通态电阻-壳温 (典型)



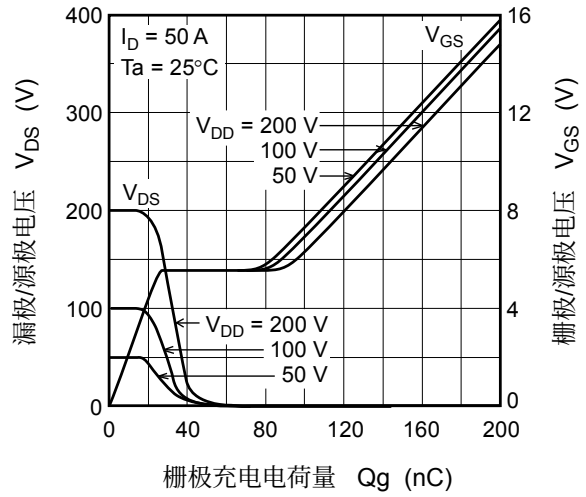
体二极管反向恢复时间 (典型)



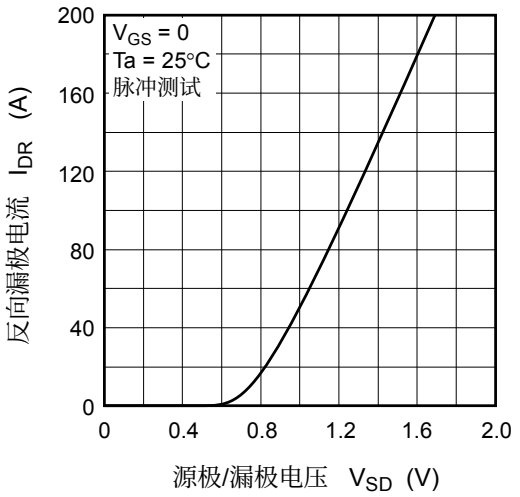
典型电容-漏极/源极电压



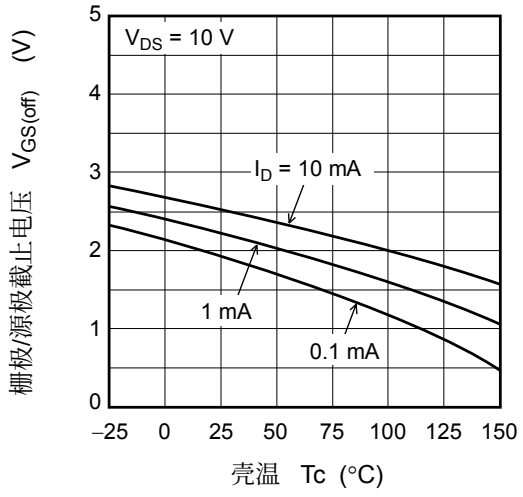
输入时序特性



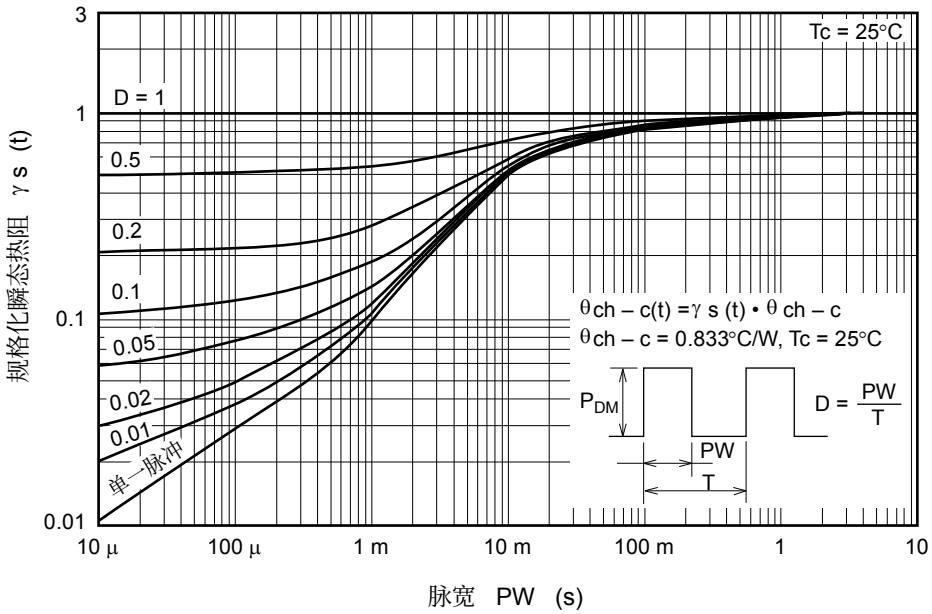
反向漏极电流-源极/漏极电压 (典型)



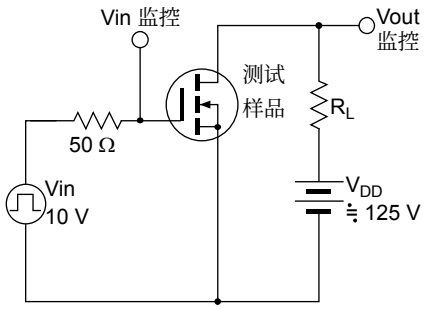
栅极/源极截止电压-壳温 (典型)



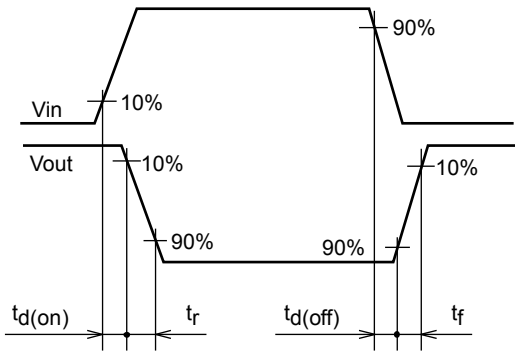
瞬态热阻特性规格化



开关时间测定电路



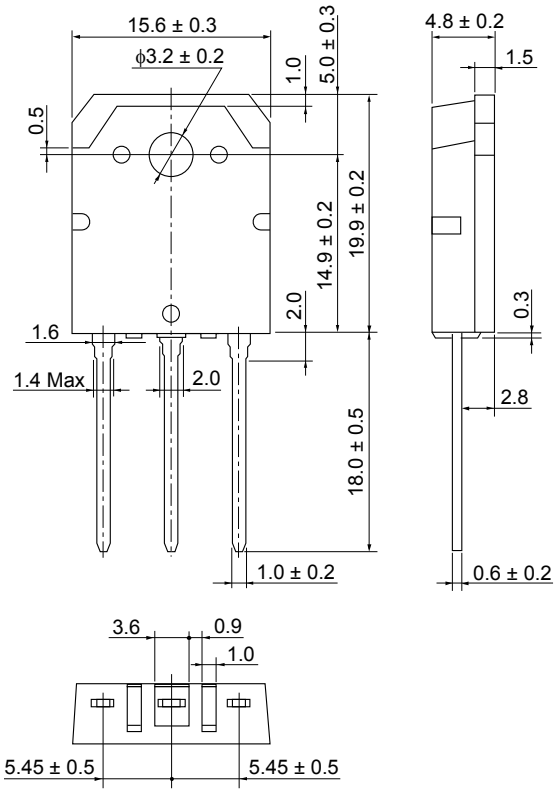
波形



封装尺寸

封装名称	JEITA 封装代码	RENESAS 代码	旧代码	重量[典型]
TO-3P	SC-65	PRSS0004ZE-A	TO-3P / TO-3PV	5.0g

单位: mm



订购信息

订购型号	数量	运输包装
H5N2507P	360 枚	纸盒包装（管状容器）

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