

RJK2075DPA

200V - 20A - 场效应晶体管
快速电源开关

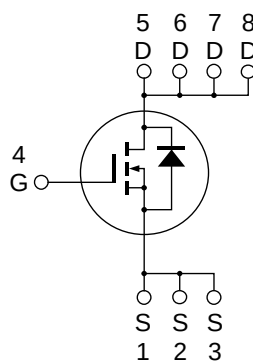
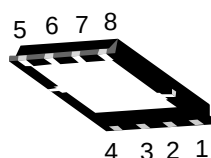
R07DS0856CJ0100
修订版本 1.00
Oct 23, 2012

特点

- 低漏极/源极通态电阻
 $R_{DS(on)} = 0.054 \Omega$ 典型值 ($I_D = 10 A$, $V_{GS} = 10 V$, $T_a = 25^\circ C$)
- 低漏泄电流
- 快速开关时间

封装形式

RENESAS 封装代码: PWSN0008DE-A
(封装名称: WPAK(3F))



1, 2, 3 源极
4 栅极
5, 6, 7, 8 漏极

绝对最大额定值

($T_a = 25^\circ C$)

参数	符号	额定值	单位
漏极/源极电压	V_{DSS}	200	V
栅极/源极电压	V_{GSS}	± 30	V
漏极电流	I_D	20	A
脉冲漏极电流	$I_{D(pulse)}$ 注1	40	A
体二极管反向漏极电流	I_{DR}	20	A
体二极管反向脉冲漏极电流	$I_{DR(pulse)}$ 注1	40	A
雪崩电流	I_{AP} 注3	9	A
雪崩能量	E_{AR} 注3	5.4	mJ
沟道最大容许损耗	P_{ch} 注2	30	W
沟道-外壳间热阻	θ_{ch-c}	4.17	$^\circ C/W$
沟道温度	T_{ch}	150	$^\circ C$
储存温度	T_{stg}	-55 to +150	$^\circ C$

- 注: 1. 在 $PW \leq 10 \mu s$, 工作周期 $\leq 1\%$ 的容许值
2. 在 $T_c = 25^\circ C$ 的容许值
3. $STch = 25^\circ C$, $T_{ch} \leq 150^\circ C$

电特性

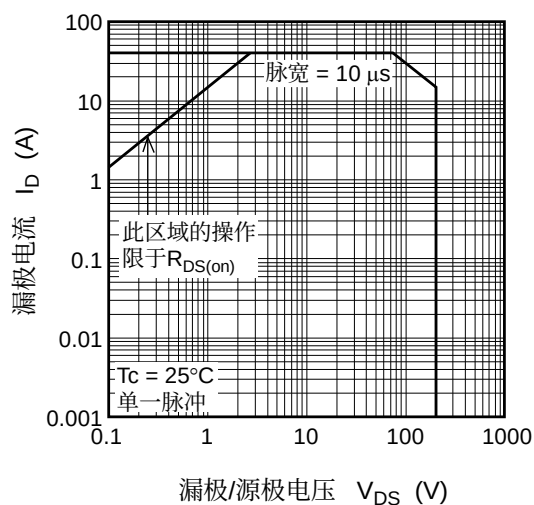
(Ta = 25°C)

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	$V_{(BR)DSS}$	200	—	—	V	$I_D = 10 \text{ mA}$, $V_{GS} = 0$
漏极截止电流	I_{DSS}	—	—	1	μA	$V_{DS} = 200 \text{ V}$, $V_{GS} = 0$
栅极截止电流	I_{GSS}	—	—	± 1	μA	$V_{GS} = \pm 30 \text{ V}$, $V_{DS} = 0$
栅极/源极截止电压	$V_{GS(off)}$	2.5	—	4.5	V	$V_{DS} = 10 \text{ V}$, $I_D = 1 \text{ mA}$
静态漏极/源极通态电阻	$R_{DS(on)}$	—	0.054	0.069	Ω	$I_D = 10 \text{ A}$, $V_{GS} = 10 \text{ V}$ ^{注4}
输入电容	C_{iss}	—	2200	—	pF	$V_{DS} = 25 \text{ V}$ $V_{GS} = 0$ $f = 1 \text{ MHz}$
输出电容	C_{oss}	—	200	—	pF	
反向传输电容	C_{rss}	—	75	—	pF	
接通延迟时间	$t_{d(on)}$	—	24	—	ns	$I_D = 10 \text{ A}$ $V_{GS} = 10 \text{ V}$ $R_L = 10 \Omega$ $R_g = 10 \Omega$
上升时间	t_r	—	33	—	ns	
关断延迟时间	$t_{d(off)}$	—	49	—	ns	
下降时间	t_f	—	34	—	ns	
栅极充电电荷量	Q_g	—	38	—	nC	$V_{DD} = 160 \text{ V}$ $V_{GS} = 10 \text{ V}$ $I_D = 20 \text{ A}$
栅极/源极充电电荷量	Q_{gs}	—	11.5	—	nC	
栅极/漏极充电电荷量	Q_{gd}	—	13	—	nC	
体二极管正向电压	V_{DF}	—	0.81	1.40	V	$I_F = 20 \text{ A}$, $V_{GS} = 0$ ^{注4}
体二极管反向恢复时间	t_{rr}	—	95	—	ns	$I_F = 20 \text{ A}$, $V_{GS} = 0$ $di_F/dt = 100 \text{ A}/\mu\text{s}$

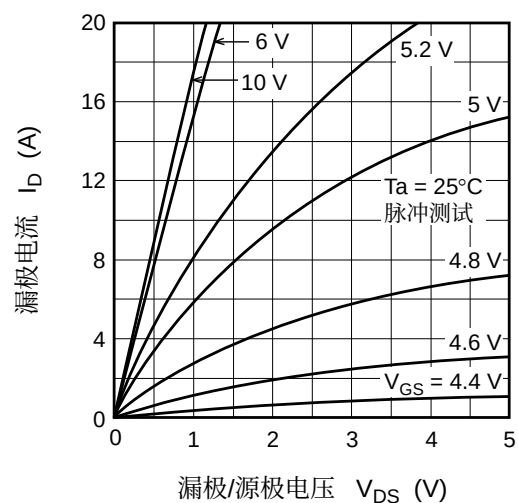
注: 4. 脉冲测试

主要特性

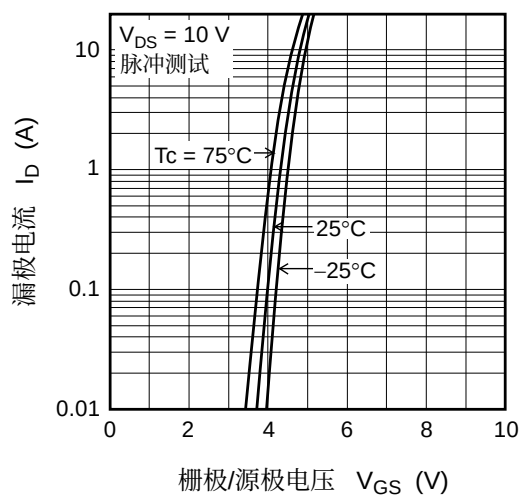
最大安全工作区域



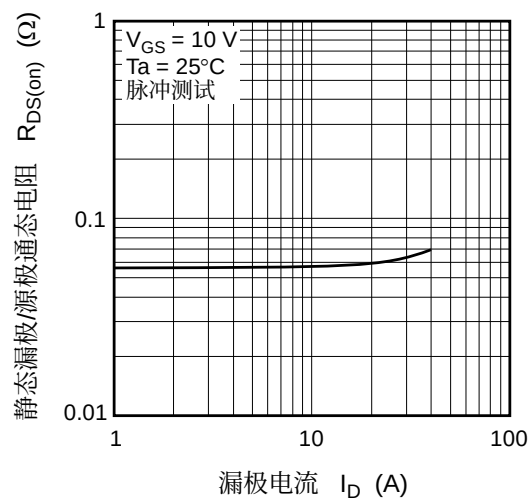
典型输出特性



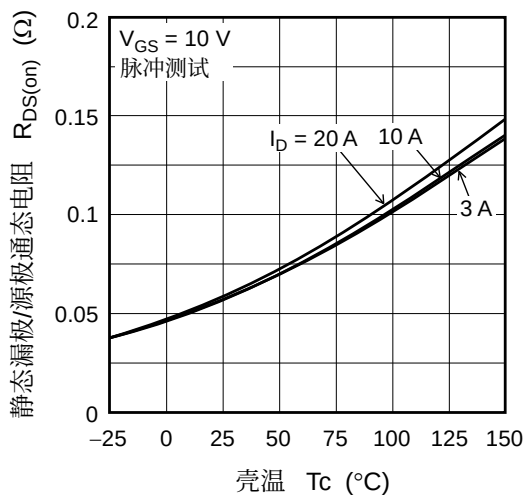
典型传输特性



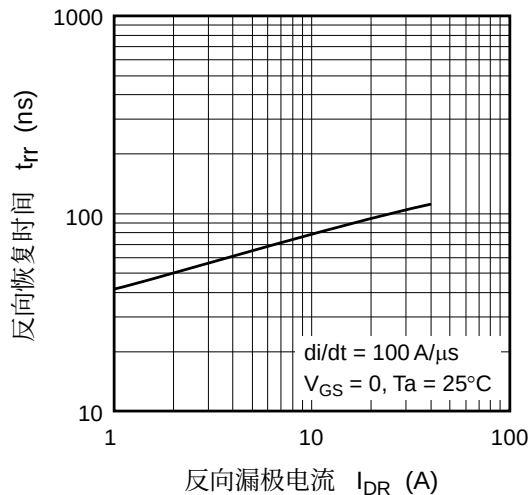
静态漏极/源极通态电阻-漏极电流 (典型)



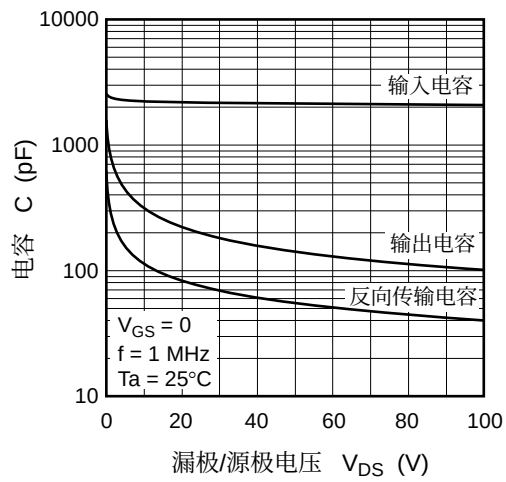
静态漏极/源极通态电阻-壳温 (典型)



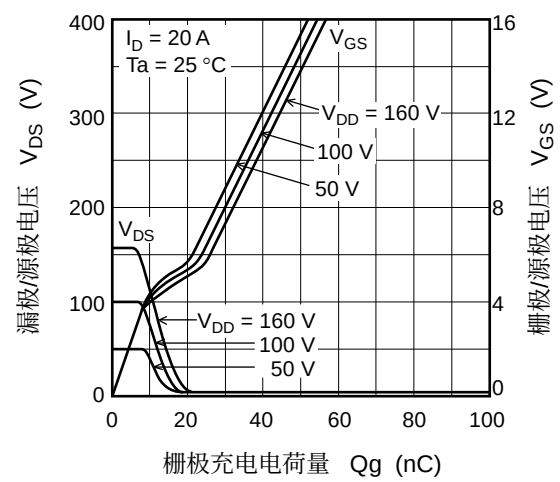
体二极管反向恢复时间 (典型)



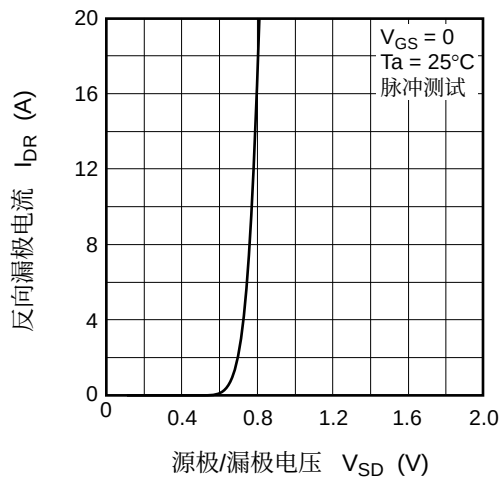
典型电容-漏极/源极电压 (典型)



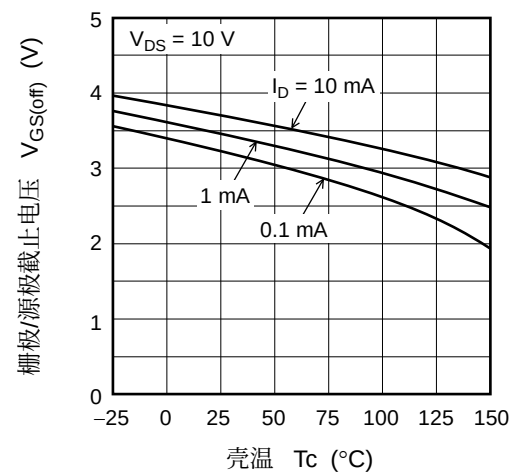
输入时序特性 (典型)



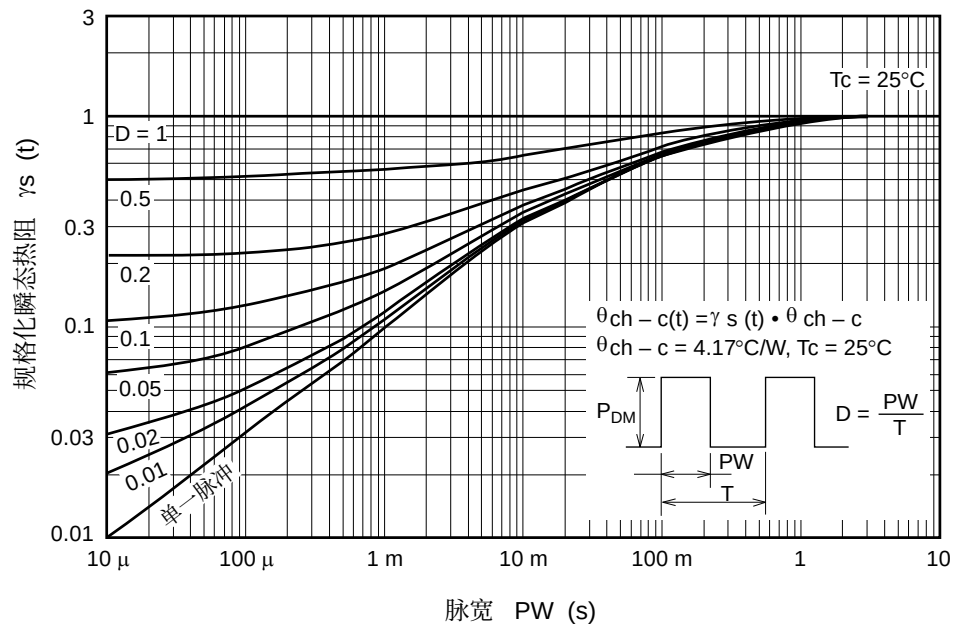
反向漏极电流-源极/漏极电压 (典型)



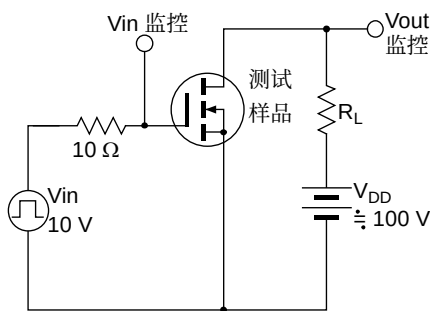
栅极/源极截止电压-壳温 (典型)



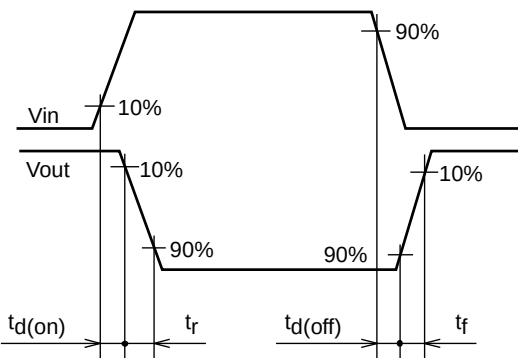
瞬态热阻特性规格化



开关时间测定电路



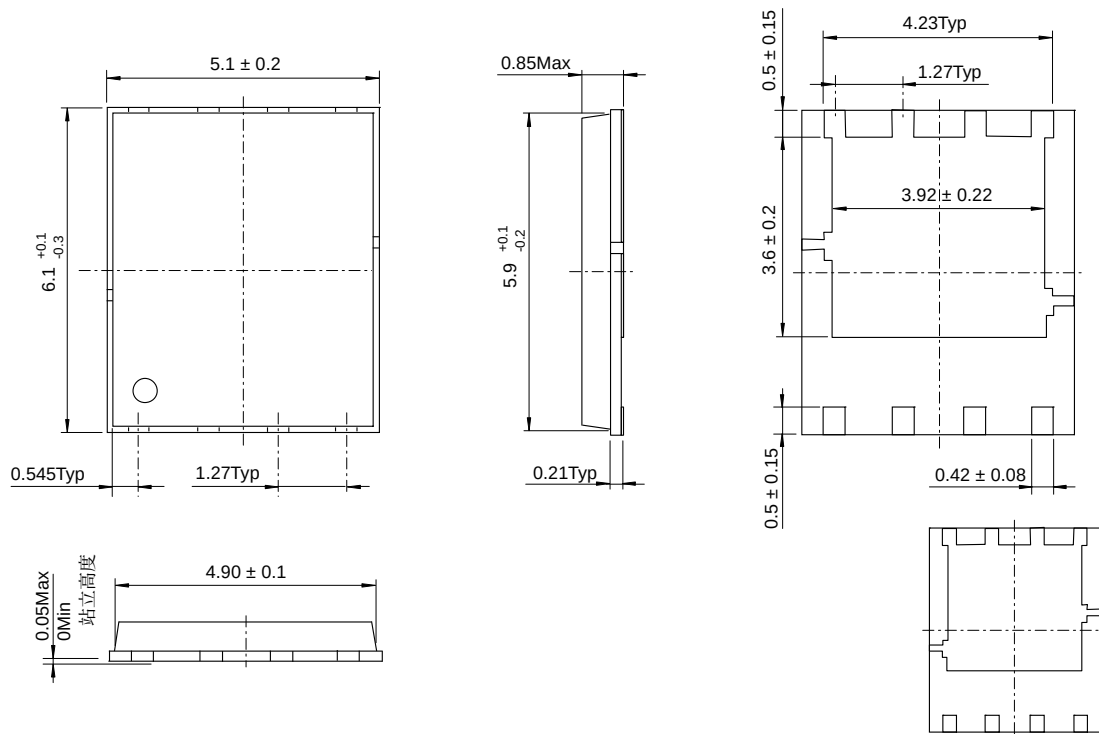
波形



封装尺寸

封装名称	JEITA 封装代码	RENESAS 代码	旧代码	重量[典型]
WPAK(3F)	—	PWSN0008DE-A	WPAK(3F)V	0.075g

单位: mm



注:上图所示芯片垫板的引脚支撑是存在的。

订购信息

订购型号	数量	运输包装
RJK2075DPA-00#J5A	3000 枚	带卷包装

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