RJK4002DPP-M0

400V - 3A -场效应晶体管
快速电源开关

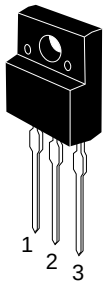
R07DS0551CJ0200
修订版本 2.00
Oct 23, 2012

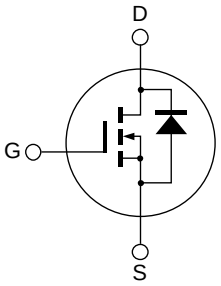
特点

- 低漏极/源极通态电阻
  $R_{DS(on)}$ = 2.4 Ω 典型值 (I_D = 1.5 A, V_{GS} = 10 V, Ta = 25°C)
- 快速开关时间

封装形式

RENESAS 封装代码: PRSS0003AF-A
(封装名称: TO-220FL)





1. 栅极
2. 漏极
3. 源极

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}	400	V
栅极/源极电压	V_{GSS}	±30	V
漏极电流	I_D 注 4	3	A
脉冲漏极电流	$I_{D(pulse)}$ 注 1	6	A
体二极管反向漏极电流	I_{DR}	3	A
体二极管反向脉冲漏极电流	$I_{DR(pulse)}$ 注 1	6	A
雪崩电流	I_{AP} 注 3	2.5	A
雪崩能量	E_{AR} 注 3	0.357	mJ
沟道最大容许损耗	Pch 注 2	20	W
沟道-外壳间热阻	θch-c	6.25	°C/W
沟道温度	Tch	150	°C
储存温度	Tstg	–55 to +150	°C

注:
1. 在 PW ≤ 10 ms, 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
4. 脉宽限于安全工作区域

电特性

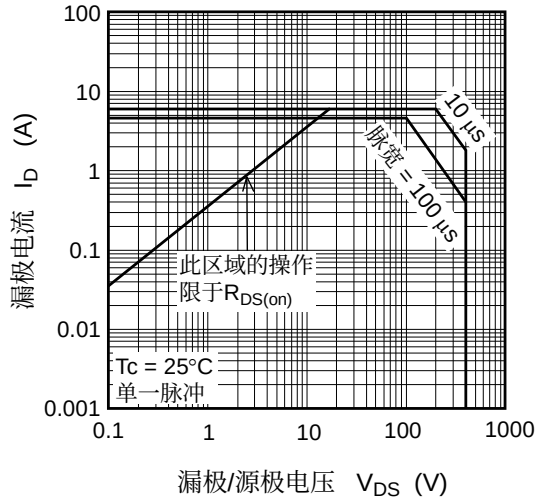
(Ta = 25°C)

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	$V_{(BR)DSS}$	400	—	—	V	I_D = 10 mA, V_{GS} = 0
漏极截止电流	I_{DSS}	—	—	1	μA	V_{DS} = 400 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	$V_{GS(off)}$	3.5	—	4.5	V	V_{DS} = 10 V, I_D = 1 mA
静态漏极/源极通态电阻	$R_{DS(on)}$	—	2.4	2.9	Ω	I_D = 1.5 A, V_{GS} = 10 V 注 5
输入电容	Ciss	—	165	—	pF	V_{DS} = 25 V V_{GS} = 0 f = 1 MHz
输出电容	Coss	—	25	—	pF	
反向传输电容	Crss	—	2.6	—	pF	
接通延迟时间	$t_{d(on)}$	—	11	—	ns	I_D = 1.5 A V_{GS} = 10 V R_L = 133 Ω Rg = 10 Ω
上升时间	t_r	—	12	—	ns	
关断延迟时间	$t_{d(off)}$	—	23	—	ns	
下降时间	t_f	—	20	—	ns	
栅极充电电荷量	Qg	—	6.0	—	nC	V_{DD} = 320 V V_{DS} = 100 V I_D = 3 A
栅极/源极充电电荷量	Qgs	—	1.2	—	nC	
栅极/漏极充电电荷量	Qgd	—	3.4	—	nC	
体二极管正向电压	V_{DF}	—	0.9	1.5	V	I_F = 3 A, V_{GS} = 0 注 5
体二极管反向恢复时间	t_{rr}	—	200	—	ns	I_F = 3 A, V_{GS} = 0 V_{DD} = 320 V di_F/dt = 100 A/μs

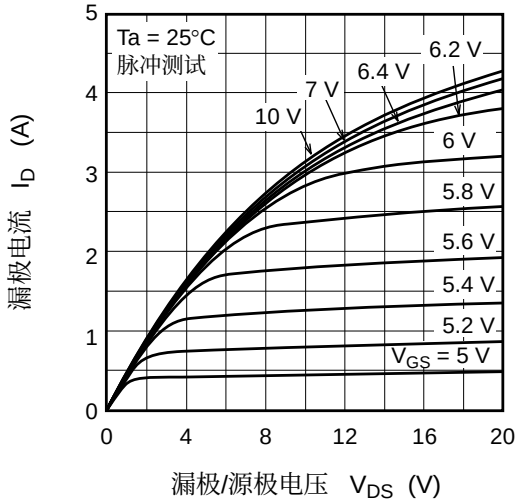
注: 5. 脉冲测试

主要特性

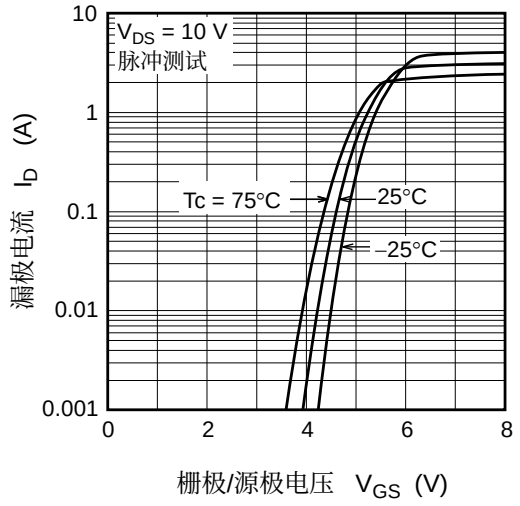
最大安全工作区域



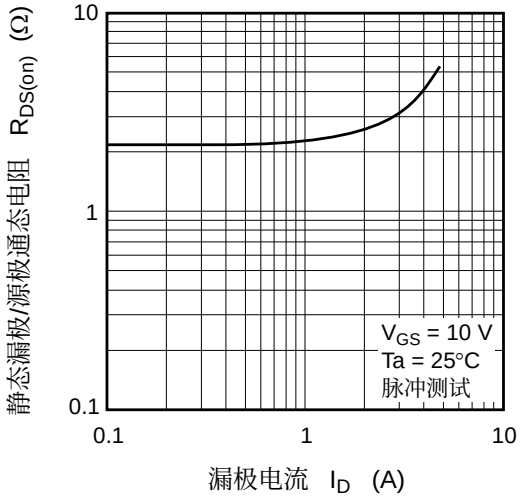
典型输出特性



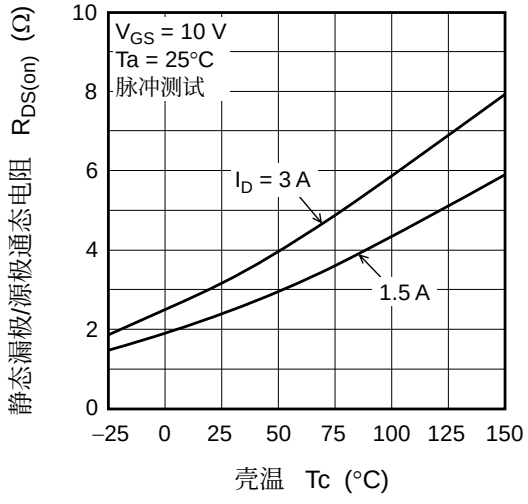
典型传输特性



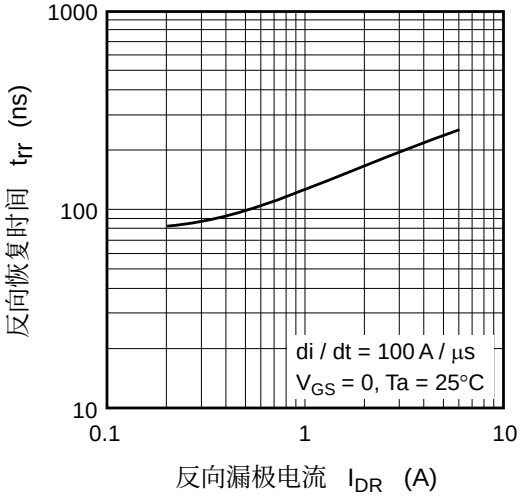
静态漏极/源极通态电阻-漏极电流 (典型)



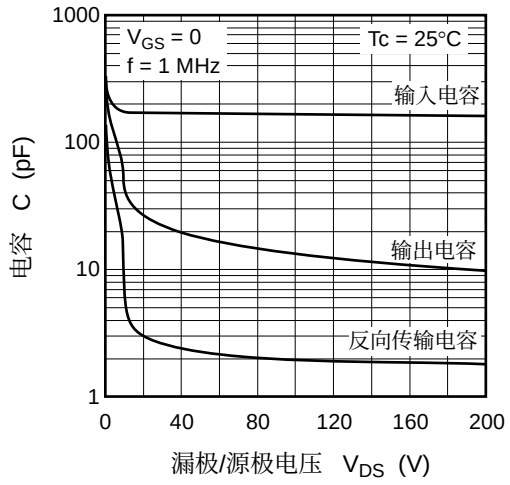
静态漏极/源极通态电阻-壳温 (典型)



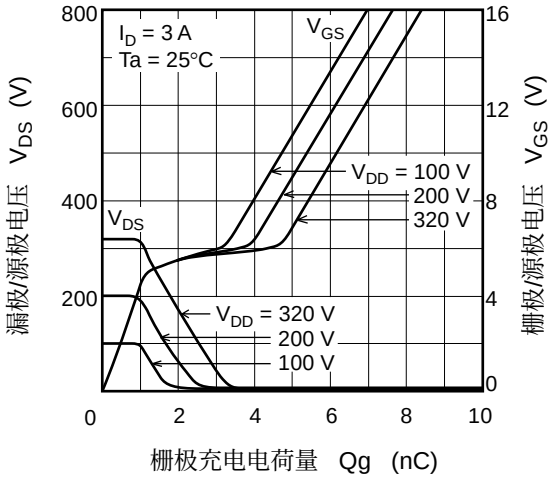
体二极管反向恢复时间 (典型)



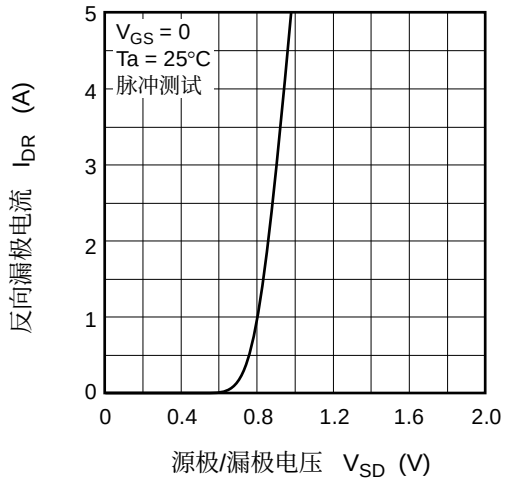
典型电容-漏极/源极电压



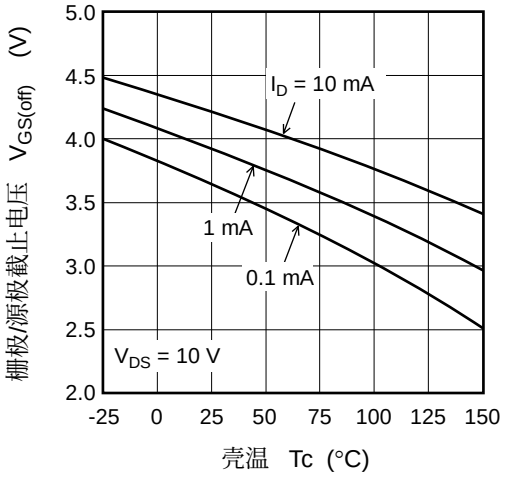
输入时序特性 (典型)



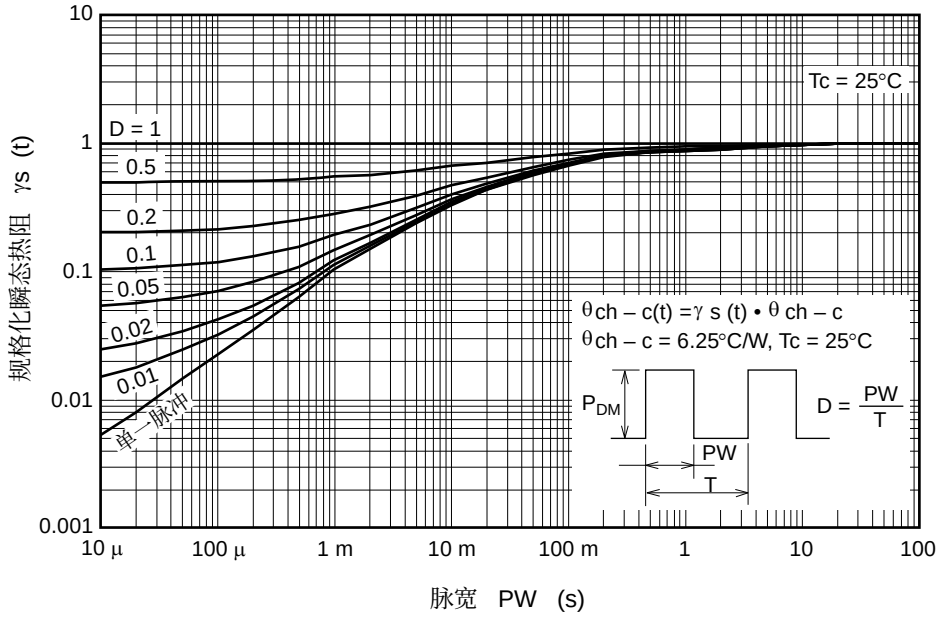
反向漏极电流-源极/漏极电压 (典型)



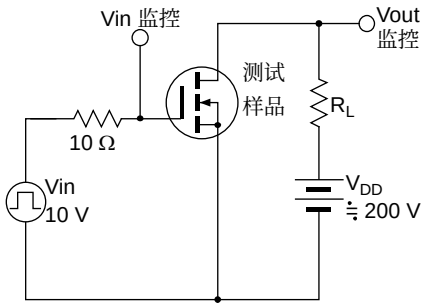
栅极/源极截止电压-壳温 (典型)



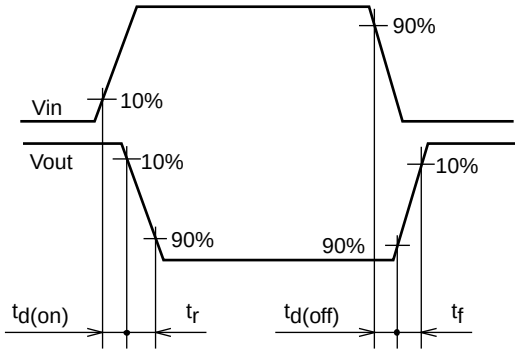
瞬态热阻特性规格化



开关时间测定电路



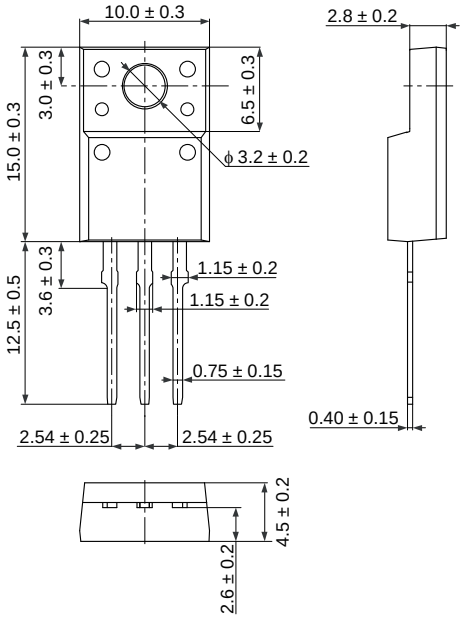
波形



封装尺寸

封装名称	JEITA 封装代码	RENESAS 代码	旧代码	重量[典型]
TO-220FL	–	PRSS0003AF-A	TO-220FL	1.5g

单位: mm



订购信息

订购型号	数量	运输包装
RJK4002DPP-M0#T2	600 枚	纸盒包装（管状容器）

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Renesas Electronics America Inc.
2880 Scott Boulevard Santa Clara, CA 95050-2554, U.S.A.
Tel: +1-408-588-6000, Fax: +1-408-588-6130

Renesas Electronics Canada Limited
1101 Nicholson Road, Newmarket, Ontario L3Y 9C3, Canada
Tel: +1-905-898-5441, Fax: +1-905-898-3220

Renesas Electronics Europe Limited
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K
Tel: +44-1628-651-700, Fax: +44-1628-651-804

Renesas Electronics Europe GmbH
Arcadiastrasse 10, 40472 Düsseldorf, Germany
Tel: +49-211-65030, Fax: +49-211-6503-1327

Renesas Electronics (China) Co., Ltd.
7th Floor, Quantum Plaza, No.27 ZhiChunLu Haidian District, Beijing 100083, P.R.China
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

Renesas Electronics (Shanghai) Co., Ltd.
Unit 204, 205, AZIA Center, No.1233 Lujiazui Ring Rd., Pudong District, Shanghai 200120, China
Tel: +86-21-5877-1818, Fax: +86-21-6887-7858 / -7898

Renesas Electronics Hong Kong Limited
Unit 1601-1613, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong
Tel: +852-2886-9318, Fax: +852 2886-9022/9044

Renesas Electronics Taiwan Co., Ltd.
13F, No. 363, Fu Shing North Road, Taipei, Taiwan
Tel: +886-2-8175-9600, Fax: +886 2-8175-9670

Renesas Electronics Singapore Pte. Ltd.
80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre Singapore 339949
Tel: +65-6213-0200, Fax: +65-6213-0300

Renesas Electronics Malaysia Sdn.Bhd.
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

Renesas Electronics Korea Co., Ltd.
11F., Samik Lavied' or Bldg., 720-2 Yeoksam-Dong, Kangnam-Ku, Seoul 135-080, Korea
Tel: +82-2-558-3737, Fax: +82-2-558-5141

Colophon 2.2