RJH60T4DPQ-A0

硅 N 沟道绝缘栅双极晶体管
快速电源开关

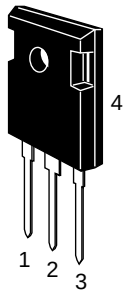
R07DS0460CJ0100
修订版本 1.00
Oct 18, 2011

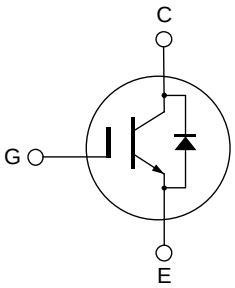
特点

- 低集电极／发射极饱和电压
  $V_{CE(sat)}$ = 1.7 V 典型值 (I_C = 30 A, V_{GE} = 15 V, Ta = 25°C)
- 单一封装内置快速恢复二极管
- 沟槽栅与薄晶圆技术
- 快速开关时间

封装形式

RENESAS 封装代码: PRSS0003ZH-A
(封装名称: TO-247A)





1. 栅极
2. 集电极
3. 发射极
4. 集电极

绝对最大额定值

(Tc = 25°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	Tc = 25 °C	I_C 注 1	60	A
	Tc = 100 °C	I_C 注 1	30	A
集电极脉冲电流		ic(peak) 注 1	120	A
集电极/发射极二极管正向脉冲电流		i_{DF}(peak) 注 2	80	A
集电极最大允许功率损耗		P_C	235.8	W
结壳热阻 (绝缘栅双极晶体管)		θj-c	0.53	°C/W
结壳热阻 (二极管)		θj-cd	2.1	°C/W
结温		Tj	150	°C
储存温度		Tstg	–55 to +150	°C

注: 1. 脉冲宽度限于安全工作区域。
2. 在 PW ≤ 5 μs, 工作周期 ≤ 1%的容许值。

电特性

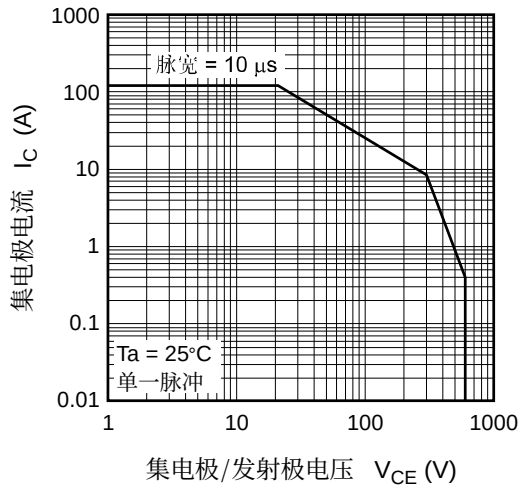
(Tj = 25°C)

参数	符号	最小值	典型值	最大值	单位	测定条件
集电极/发射极断路电流	I_{CES}	—	—	100	μA	V_{CE} = 600V, 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	$V_{GE(off)}$	4	—	8	V	V_{CE} = 10V, I_C = 1 mA
集电极/发射极饱和电压	$V_{CE(sat)}$	—	1.7	2.2	V	I_C = 30 A, V_{GE} = 15V 注 3
	$V_{CE(sat)}$	—	2.2	—	V	I_C = 60 A, V_{GE} = 15V 注 3
输入电容	Cies	—	1900	—	pF	V_{CE} = 25 V V_{GE} = 0 V f = 1 MHz
输出电容	Coes	—	93	—	pF	
反向传输电容	Cres	—	33	—	pF	
接通延迟时间	$t_{d(on)}$	—	45	—	ns	I_C = 30 A, V_{CE} = 400 V, V_{GE} = 15 V Rg = 5 Ω 注 3 感性负载
上升时间	t_r	—	86	—	ns	
关断延迟时间	$t_{d(off)}$	—	85	—	ns	
下降时间	t_f	—	72	—	ns	
集电极/发射极二极管正向电压	V_{ECF}	—	1.2	1.6	V	I_F = 20 A 注 3
集电极/发射极二极管反向恢复时间	t_{rr}	—	100	—	ns	I_F = 10 A di_F/dt = −20 A/μs

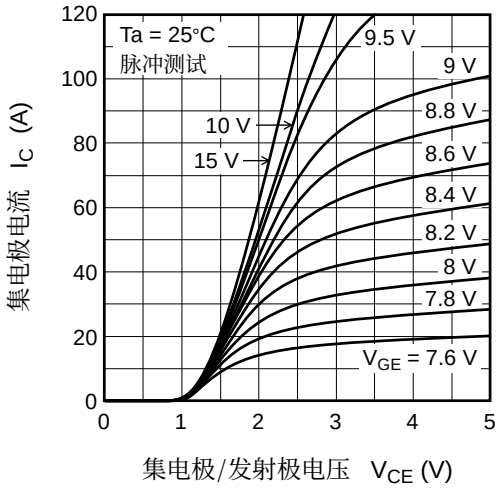
注: 3. 脉冲测试

主要特性

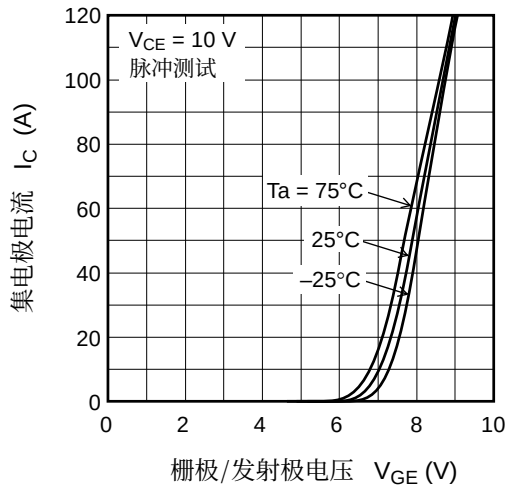
最大安全工作区域



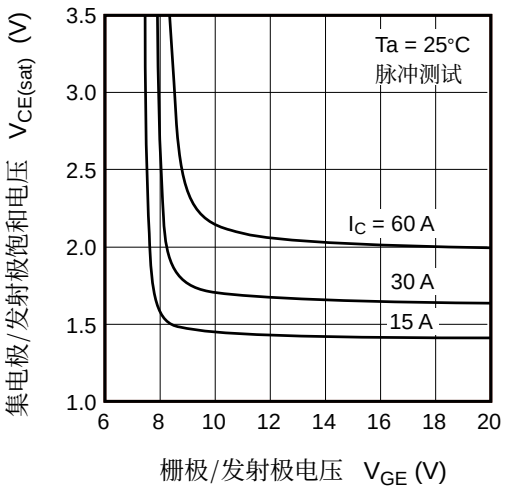
典型输出特性



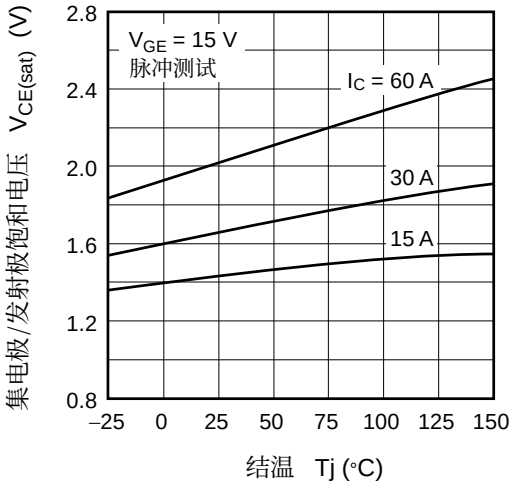
典型传输特性



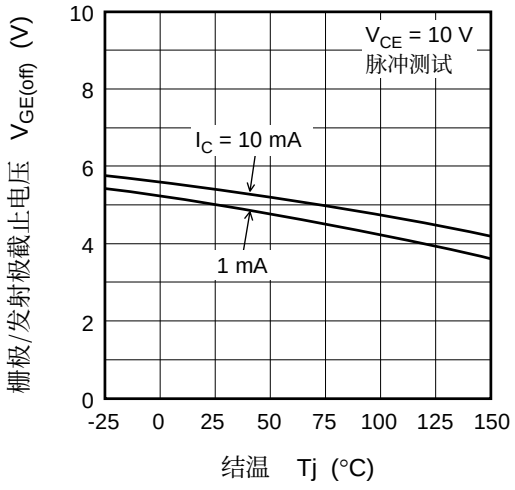
集电极/发射极饱和电压-栅极/发射极电压 (典型)



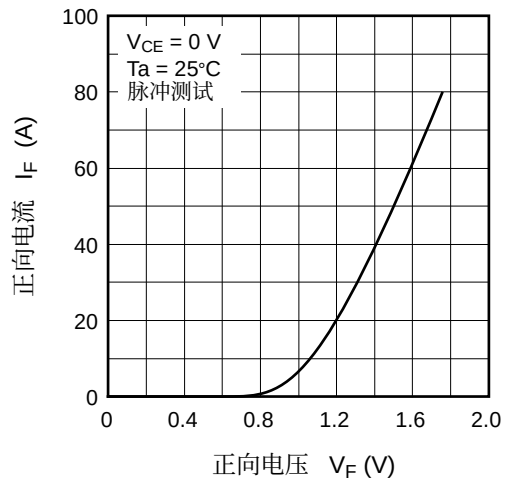
集电极/发射极饱和电压-结温 (典型)



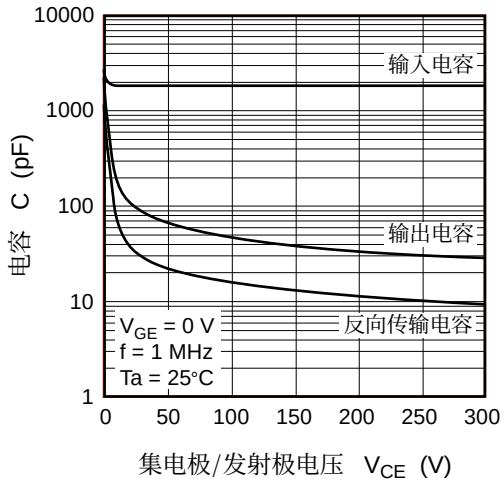
栅极/发射极截止电压-结温 (典型)



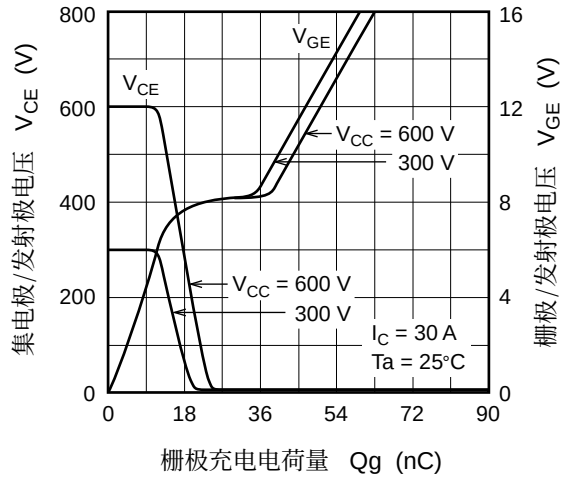
二极管正向特性 (典型)



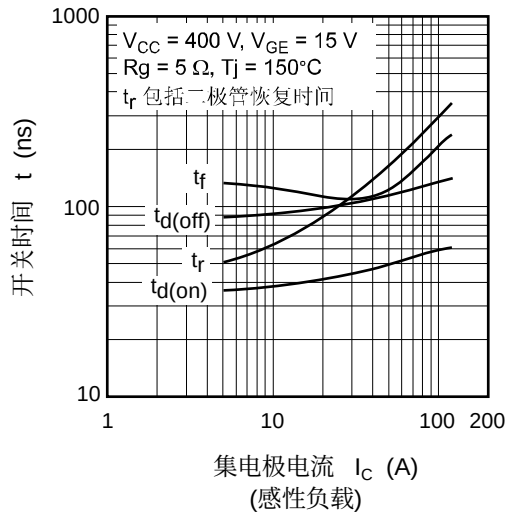
典型电容-集电极/发射极电压



输入时序特性 (典型)



开关特性 (典型) (1)



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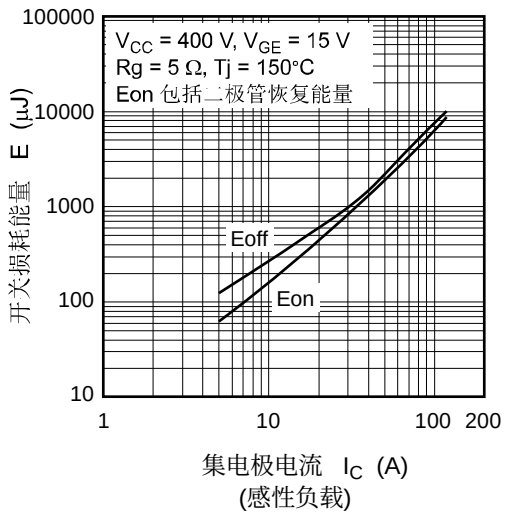
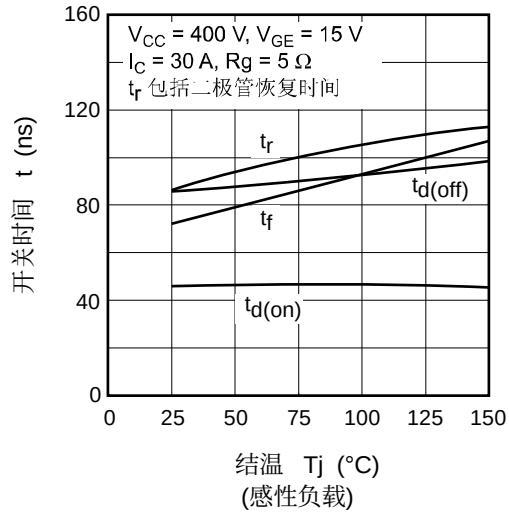
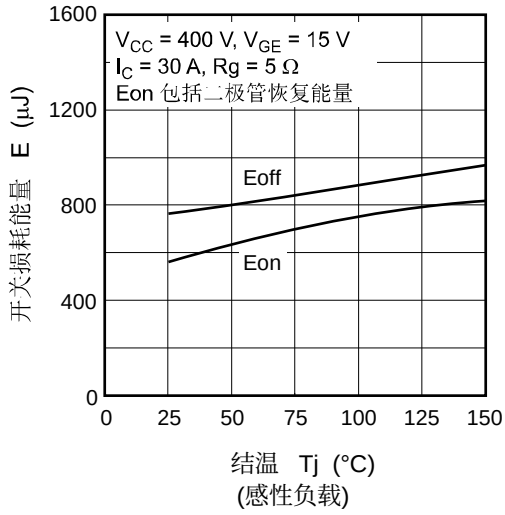


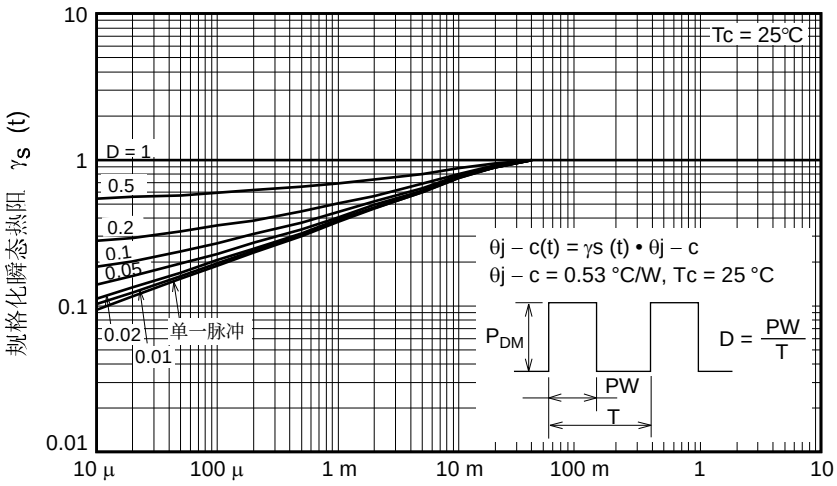
开关特性 (典型) (3)



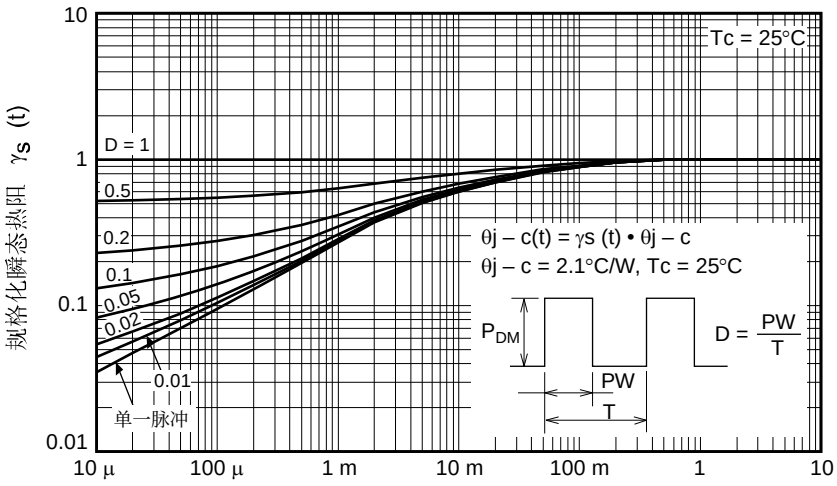
开关特性 (典型) (4)



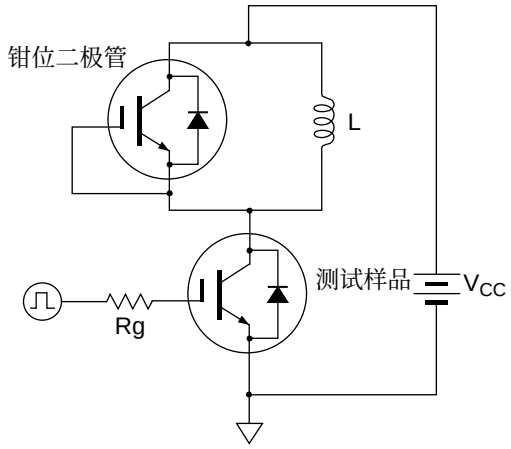
瞬态热阻特性规格化-脉宽 (绝缘栅双极晶体管)



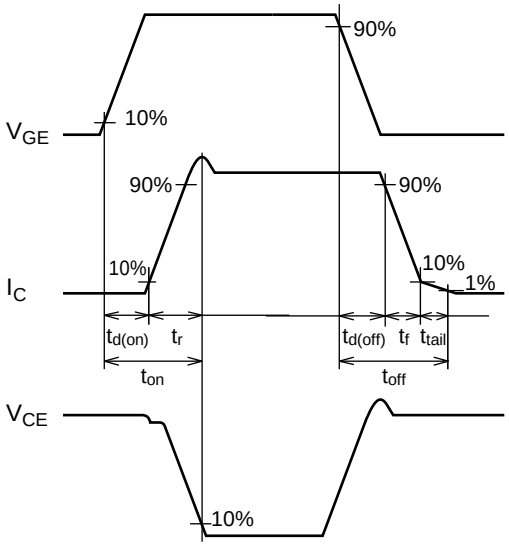
瞬态热阻特性规格化-脉宽 (二极管)



开关时间测定电路



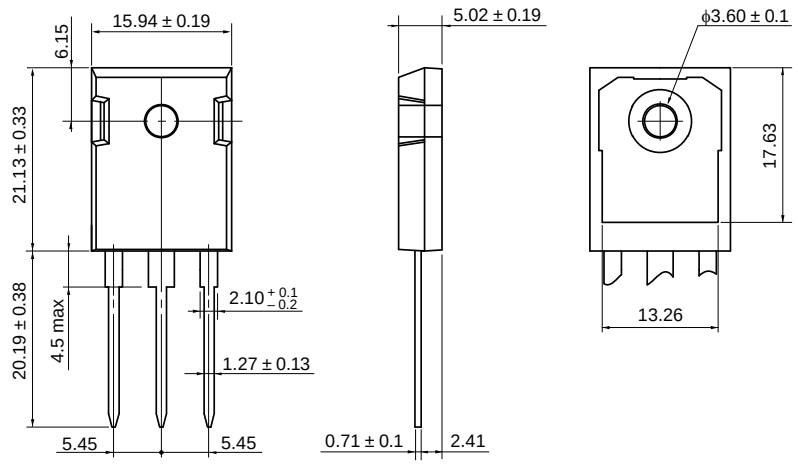
运行波形



封装尺寸

封装名称	JEITA 封装代码	RENESAS 代码	旧代码	重量[典型]
TO-247A	—	PRSS0003ZH-A	—	6.14g

单位: mm



订购信息

订购型号	数量	运输包装
RJH60T4DPQ-A0-T0	450 枚	纸盒包装 (管状容器)

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