

RJP4301APP-M0

R07DS0749EJ0100

Nch IGBT for Strobe Flash

Rev.1.00

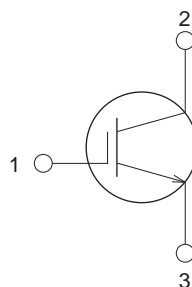
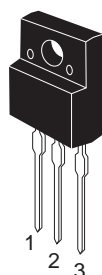
Apr 26, 2012

Features

- V_{CES} : 430 V
- TO-220FL package
- High Speed Switching

Outline

RENESAS Package code: PRSS0003AF-A
(Package name: TO-220FL)



1 : Gate
2 : Collector
3 : Emitter

Applications

Strobe flash

Maximum Ratings

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

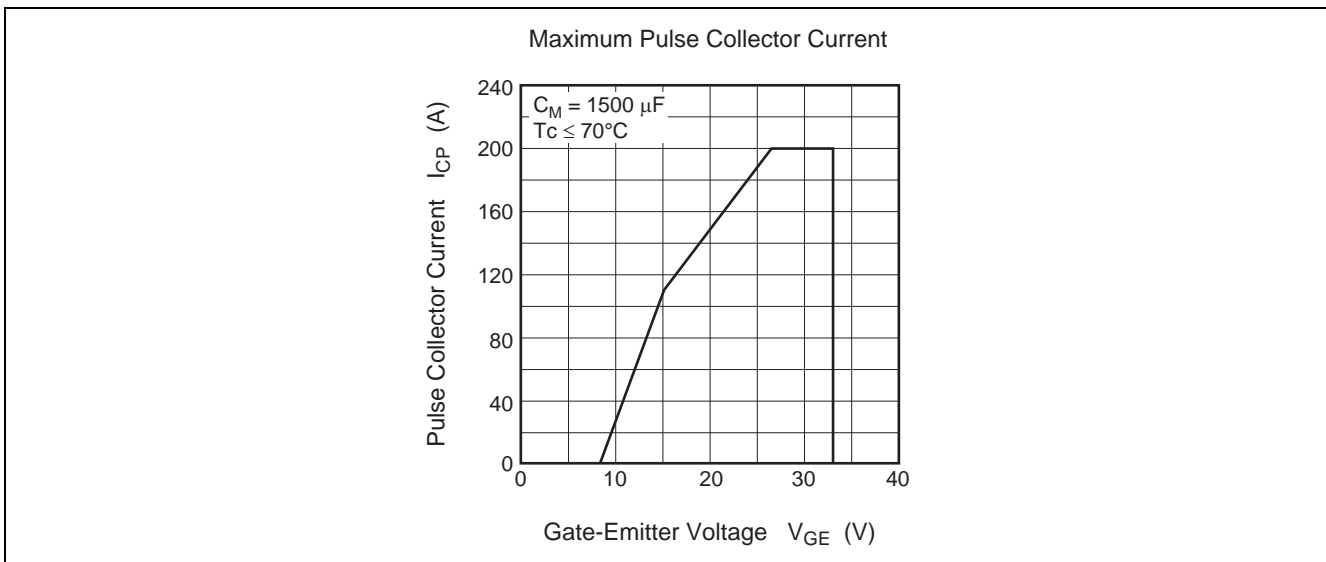
Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V_{CES}	430	V	$V_{GE} = 0\text{ V}$
Gate-emitter voltage	V_{GES}	± 33	V	$V_{CE} = 0\text{ V}$, Refer to item 4 under Notes on the Actual Specifications
Collector current (Pulse)	I_{CM}	200	A	$C_M = 1500\ \mu\text{F}$ (see performance curve)
Maximum power dissipation	P_C	30	W	
Junction temperature	T_j	- 40 to +150	$^\circ\text{C}$	
Storage temperature	T_{stg}	- 40 to +150	$^\circ\text{C}$	
Mass	—	1.5	g	Typical value

Electrical Characteristics

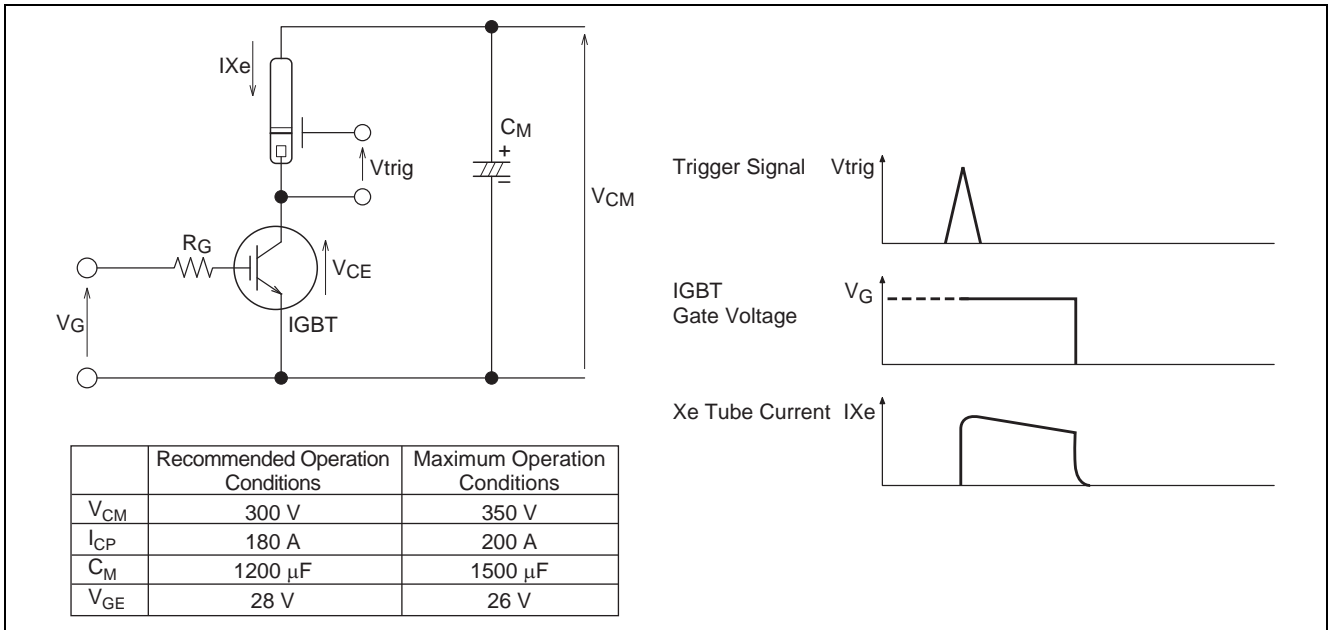
(T_j = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	V _{(BR)CES}	430	—	—	V	I _C = 100 μA, V _{GE} = 0 V
Collector-emitter leakage current	I _{CES}	—	—	1	μA	V _{CE} = 430 V, V _{GE} = 0 V
Gate-emitter leakage current	I _{GES}	—	—	±0.1	μA	V _{GE} = ±33 V, V _{CE} = 0 V
Gate-emitter threshold voltage	V _{GE(th)}	3.0	—	5.5	V	V _{CE} = 10 V, I _C = 1 mA
Collector-emitter saturation voltage	V _{CE(sat)}	—	4.0	10	V	I _C = 200 A, V _{GE} = 26 V
Input capacitance	C _{ies}	—	1150	—	pF	V _{CE} = 25 V
Output capacitance	C _{oes}	—	125	—	pF	V _{GE} = 0 V
Reverse transfer capacitance	C _{res}	—	14	—	pF	f = 1 MHz
Turn-on delay time	t _{d(on)}	—	0.05	—	μs	I _C = 200 A
Rise time	t _r	—	0.24	—	μs	V _{GE} = 26 V
Turn-off delay time	t _{d(off)}	—	0.10	—	μs	V _{CC} = 300 V
Fall time	t _f	—	0.23	—	μs	R _G = 30 Ω

Performance Curves



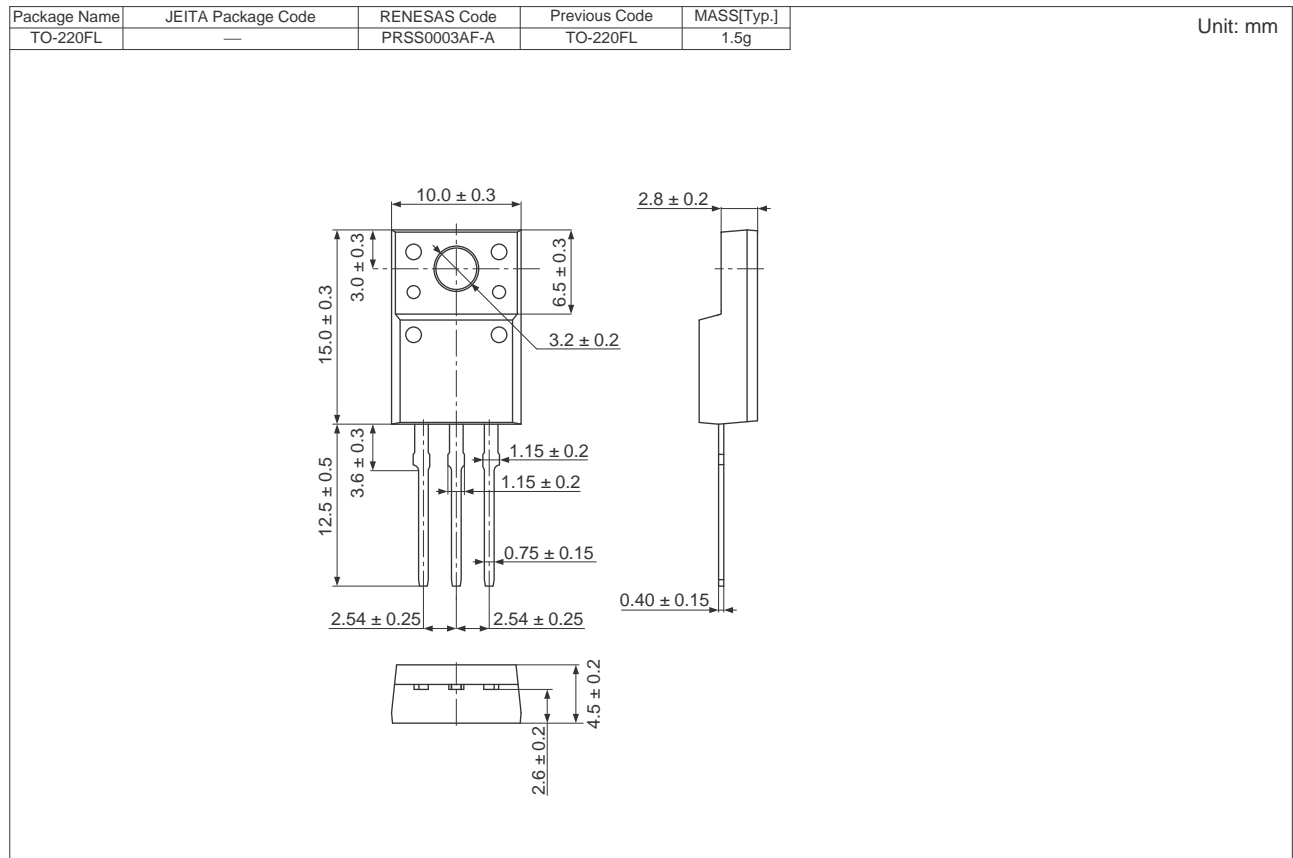
Application Example



Precautions on Usage

1. Gate drive voltage during on-period must be applied to satisfy the rating of maximum pulse collector current. And turn-off dv/dt must become less than 1000 V/ μ s.
2. IGBT has MOS structure and its gate is insulated by thin silicon oxide. So please handle carefully to protect the device from electrostatic charge.
3. The operation life should be endured until repeated discharge of 5,000 times under the charge current ($I_{Xe} \leq 200$ A : full luminescence condition) of main capacitor. Repetition period under full luminescence condition is over 3 seconds.
4. Total operation hours applied to the gate-emitter voltage must be within 5,000 hours.
5. Switching frequency is using it by less than 50 kHz.

Package Dimensions



Ordering Information

Orderable Part Number	Quantity	Shipping Container
RJP4301APP-M0-T2	50 pcs	Magazine (Tube)

Note: The symbol of 2nd "-" is occasionally presented as "#".

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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: +44-1628-585-100, Fax: +44-1628-585-900

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.
1 HarbourFront Avenue, #06-10, Keppel Bay Tower, Singapore 098632
Tel: +65-6213-0200, Fax: +65-6278-8001

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

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