

# RJP4010AGE

R07DS0371EJ0300

Rev.3.00

## Nch IGBT for Strobe Flash

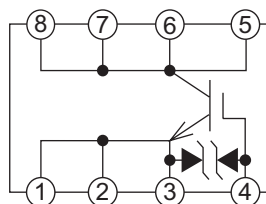
Apr 27, 2011

### Features

- Ultra small surface mount package (TSOJ-8)
- $V_{CES}$ : 400 V
- $I_{CM}$ : 150 A @  $V_{GE} = 3$  V,  $T_c = 70^\circ\text{C}$ ,  $C_M = 100 \mu\text{F}$
- Drive voltage: 3.0 V to 6 V (MAX)
- Pb-free
- Halogen-free

### Outline

RENESAS Package code: PTSJ0008JA-A  
(Package name: TSOJ-8)



1, 2, 3 : Emitter  
4 : Gate  
5, 6, 7, 8 : Collector

### Applications

Strobe flash for cameras

### Maximum Ratings

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

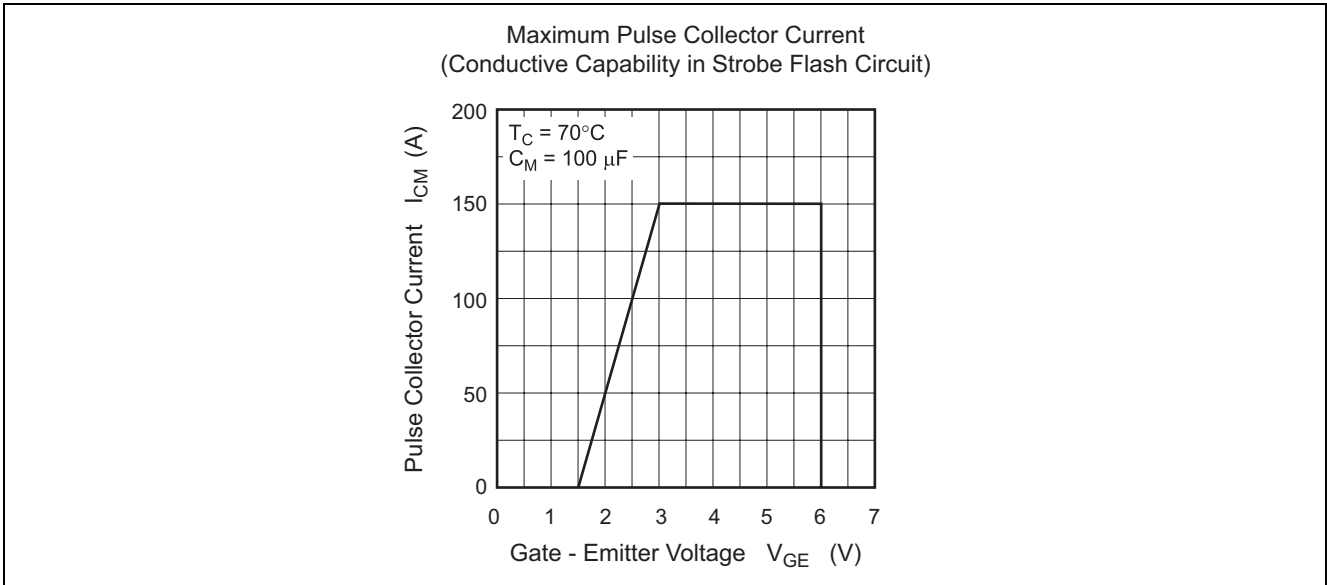
Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	$V_{CES}$	400	V	$V_{GE} = 0$ V
Gate-emitter voltage	$V_{GES}$	$\pm 6$	V	$V_{CE} = 0$ V
Collector current (Pulse)	$I_{CM}$	150	A	$C_M = 100 \mu\text{F}$ (see performance curve)
Channel dissipation	$P_{ch}$	1.6	W	
Junction temperature	$T_j$	-40 to +150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-40 to +150	$^\circ\text{C}$	

## Electrical Characteristics

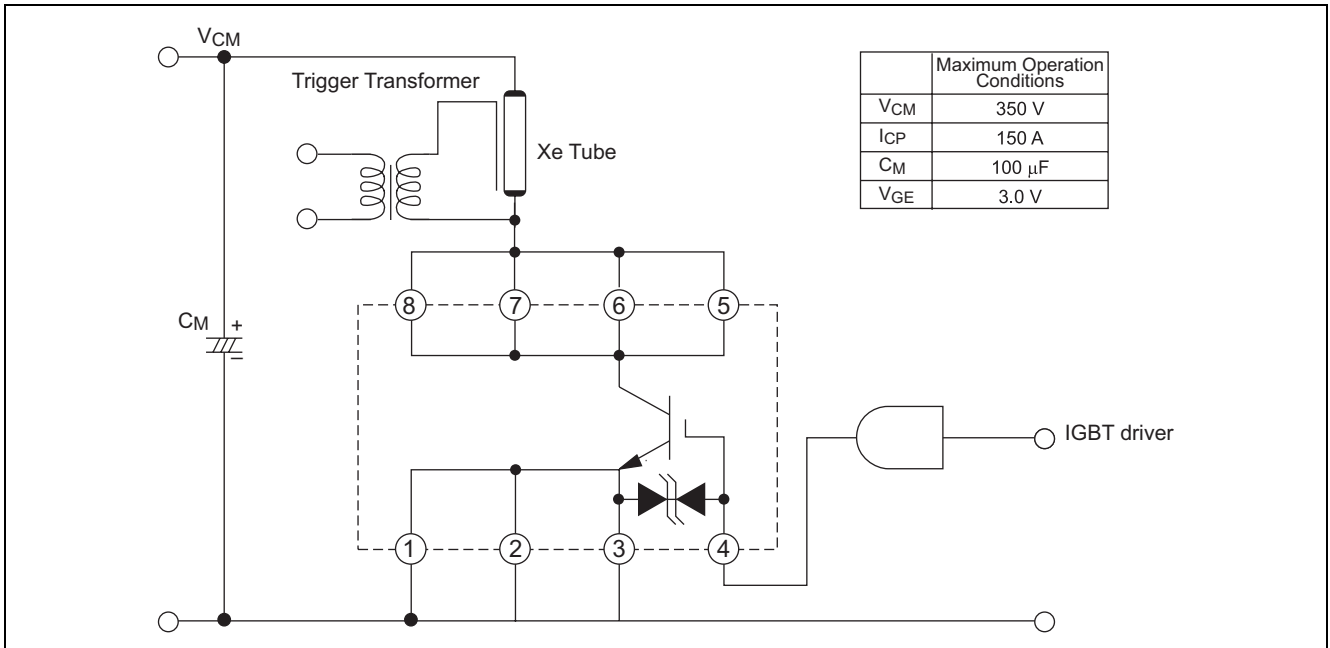
(T<sub>j</sub> = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter leakage current	I <sub>CES</sub>	—	—	1	μA	V <sub>CE</sub> = 400 V, V <sub>GE</sub> = 0 V
Gate-emitter leakage current	I <sub>GES</sub>	—	—	±10	μA	V <sub>GE</sub> = ±6 V, V <sub>CS</sub> = 0 V
Gate-emitter threshold voltage	V <sub>GE(th)</sub>	0.4	0.6	1.2	V	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 1 mA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	—	4.5	9.0	V	I <sub>C</sub> = 150 A, V <sub>GE</sub> = 3.0 V
Input capacitance	C <sub>ies</sub>	—	5100	—	pF	V <sub>CE</sub> = 25 V, V <sub>GE</sub> = 0 V, f = 1 MHz

## Performance Curves



## Application Example

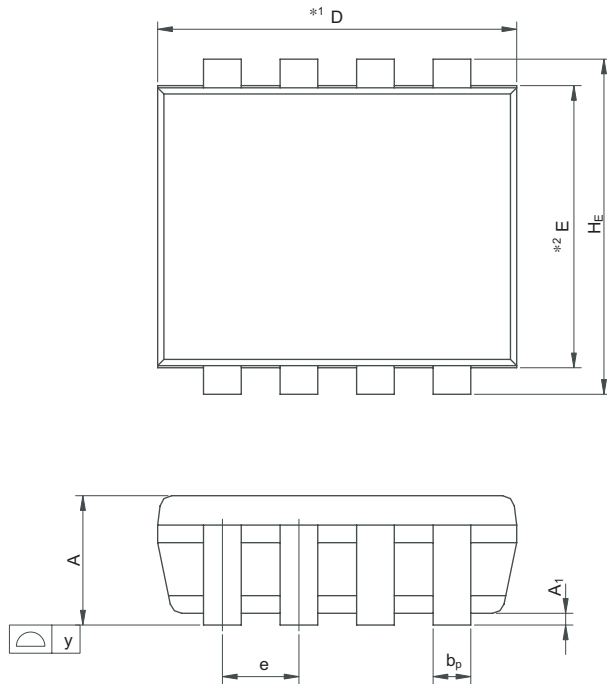


## Precautions on Usage

1. IGBT has MOS structure and its gate is insulated by thin silicon oxide. So please handle carefully to protect the device from electrostatic charge.
2. 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 400 V/ $\mu$ s. In general, when  $R_{G(off)} = 68 \Omega$ , it is satisfied.
3. The operation life should be endured until repeated discharge of 5,000 times under the charge current ( $I_{Xe} \leq 150$  A : full luminescence condition) of main capacitor. Repetition period under full luminescence condition is over 3 seconds.

### Package Dimensions

JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
P-TSOJ8-2.4x3.05-0.65	PTSJ0008JA-A	TSOJ-8	0.022g



NOTE)  
1. DIMENSIONS"\*1"AND"\*2"  
DO NOT INCLUDE MOLD  
FLASH.

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	2.95	3.05	3.10
E	2.30	2.40	2.50
A	0.935	—	1.10
A <sub>1</sub>	0.01	—	0.10
b <sub>p</sub>	0.25	0.32	0.40
c	0.10	0.15	0.20
H <sub>E</sub>	2.65	2.85	3.05
e	—	0.65	—
y	—	—	0.10
L <sub>p</sub>	0.30	0.45	0.60
e <sub>1</sub>	2.50	—	3.00
θ	0°	4°	8°

### Ordering Information

Orderable Part No.	Quantity	Shipping Container
RJP4010AGE-00-P5	3000 pcs	Taping

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