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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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Not recommended
for new design

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CY20AAJ-8

Nch IGBT for Strobe Flash

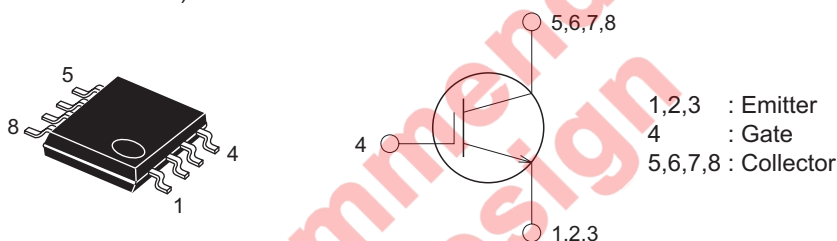
REJ03G1375-0200
 (Previous: MEJ02G0304-0101)
 Rev.2.00
 Jul 07, 2006

Features

- V_{CES} : 400 V
- I_{CM} : 130 A
- Drive voltage : 4 V

Outline

RENESAS Package code: PRSP0008DA-B
 (Package name: SOP-8 <8P2S-B>)



Applications

Strobe flash for cameras

Maximum Ratings

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

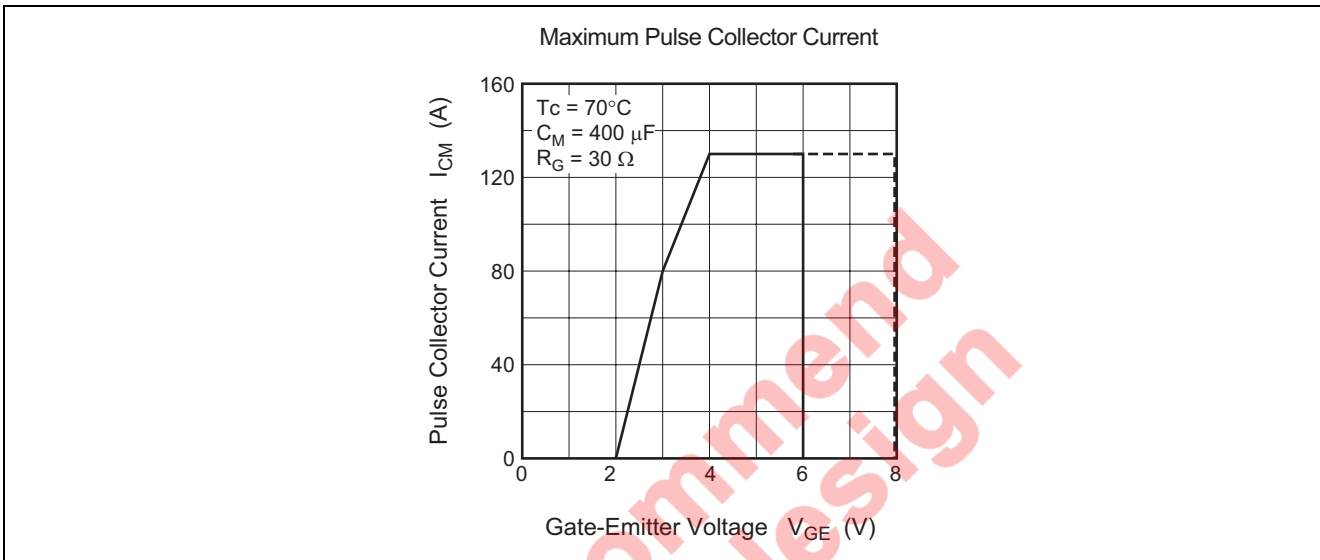
Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V_{CES}	400	V	$V_{GE} = 0\text{ V}$
Gate-emitter voltage	V_{GES}	± 6	V	$V_{CE} = 0\text{ V}$
Peak gate-emitter voltage	V_{GEM}	± 8	V	$V_{CE} = 0\text{ V}$, $t_w = 10\text{ s}$
Collector current (Pulse)	I_{CM}	130	A	$C_M = 400\ \mu\text{F}$ (see performance curves)
Junction temperature	T_j	- 40 to +150	$^\circ\text{C}$	
Storage temperature	T_{stg}	- 40 to +150	$^\circ\text{C}$	

Electrical Characteristics

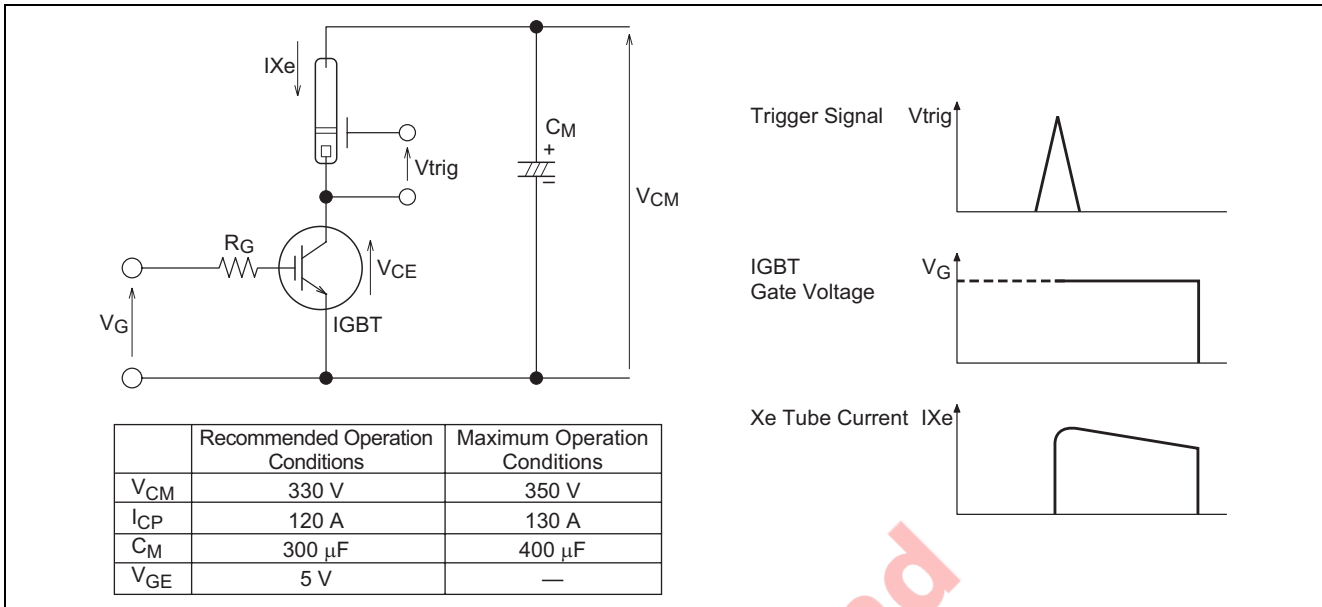
(T_j = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	V _{(BR)CES}	450	—	—	V	I _C = 1 mA, V _{GE} = 0 V
Collector-emitter leakage current	I _{CES}	—	—	10	μA	V _{CE} = 400 V, V _{GE} = 0 V
Gate-emitter leakage current	I _{GES}	—	—	±0.1	μA	V _{GE} = ±6 V, V _{CE} = 0 V
Gate-emitter threshold voltage	V _{GE(th)}	—	—	1.5	V	V _{CE} = 10 V, I _C = 1 mA

Performance Curves



Application Example

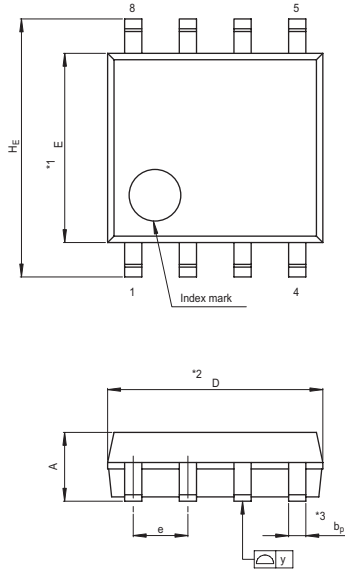


Precautions on Usage

1. Gate drive voltage during on-state must be applied to satisfy the rating of maximum pulse collector current. And peak reverse gate current during turn-off must become less than 0.1 A. (In general, when $R_{G(off)} = 30 \Omega$, it is satisfied.)
2. IGBT has MOS structure and its gate is insulated by thin silicon oxide. So please handle carefully not to give static electricity.
3. The operation life should be endured 5,000 shots under the charge current ($I_{Xe} \leq 130$ A : full luminescence condition) of main condenser ($C_M = 400 \mu\text{F}$). Repetitive period under the full luminescence conditions is over 3 seconds.
4. Total gate operation time must be applied within 5,000 hours.

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
SOP-8	P-SOP8-4.4x5-1.27	PRSP0008DA-B	8P2S-B	0.07g



NOTE)
 1. DIMENSIONS **1" AND **2"
 DO NOT INCLUDE MOLD FLASH.
 2. DIMENSION **3" DOES NOT
 INCLUDE TRIM OFFSET.

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	4.8	5.0	5.2
E	4.2	4.4	4.6
A ₂	—	1.5	—
A ₁	0	0.1	0.2
A	—	—	1.8
b _p	0.35	0.4	0.5
c	0.13	0.15	0.2
θ	0°	—	10°
H _E	5.7	6.0	6.3
e	1.12	1.27	1.42
y	—	—	0.1
L	0.2	0.4	0.6

Ordering Information

Lead form	Standard packing	Quantity	Standard order code	Standard order code example
Surface-mounted type	Taping	3000	Type name – T +Direction (1 or 2)+3	CY20AAJ-8-T13

Note: Please confirm the specification about the shipping in detail.

Keep safety first in your circuit designs!

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