To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

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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CY20AAJ-8

Nch IGBT for Strobe Flash

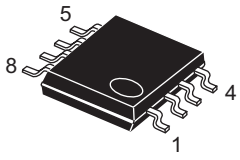
REJ03G1375-0200
(Previous: MEJ02G0304-0101)
Rev.2.00
Jul 07, 2006

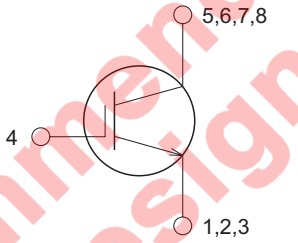
Features

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

Outline

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





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

Applications

Strobe flash for cameras

Maximum Ratings

(Tc = 25°C)

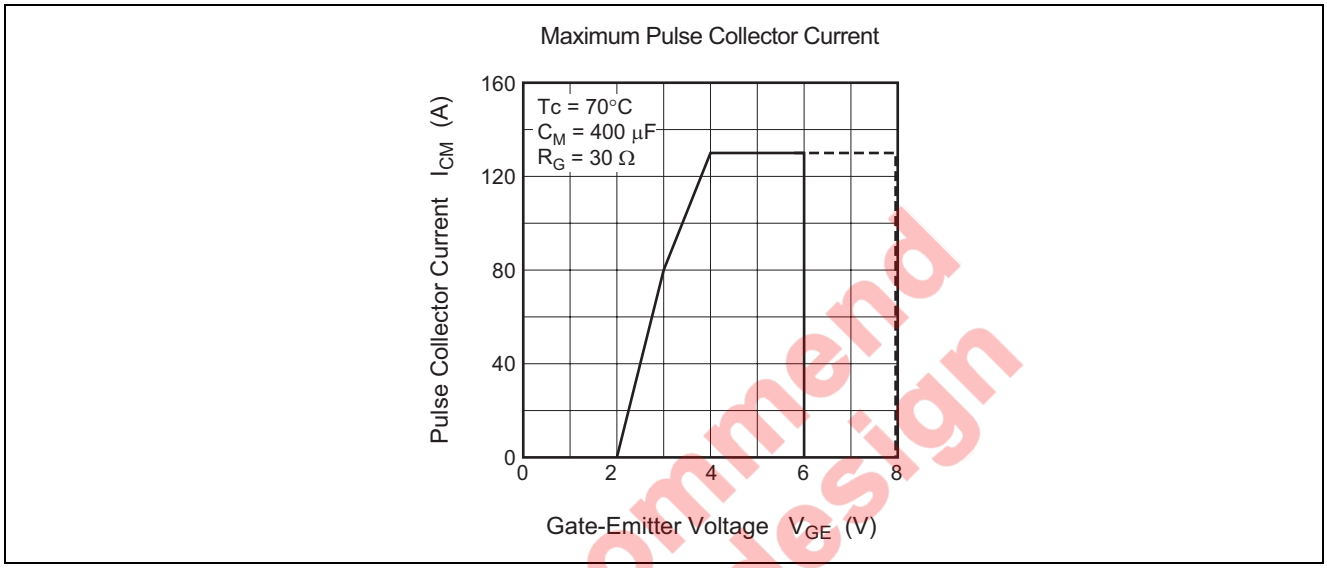
Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V_{CES}	400	V	V_{GE} = 0 V
Gate-emitter voltage	V_{GES}	±6	V	V_{CE} = 0 V
Peak gate-emitter voltage	V_{GEM}	±8	V	V_{CE} = 0 V, tw = 10 s
Collector current (Pulse)	I_{CM}	130	A	C_M = 400 µF (see performance curves)
Junction temperature	Tj	– 40 to +150	°C	
Storage temperature	Tstg	– 40 to +150	°C	

Electrical Characteristics

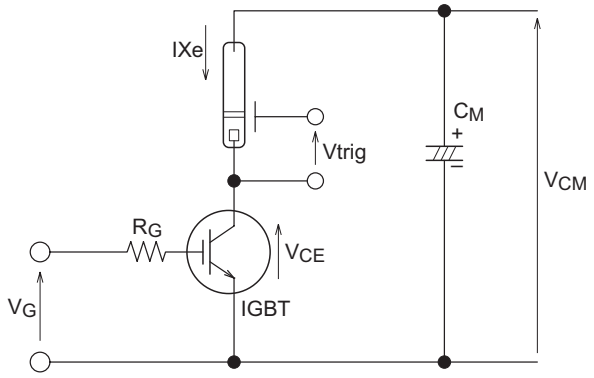
(Tj = 25°C)

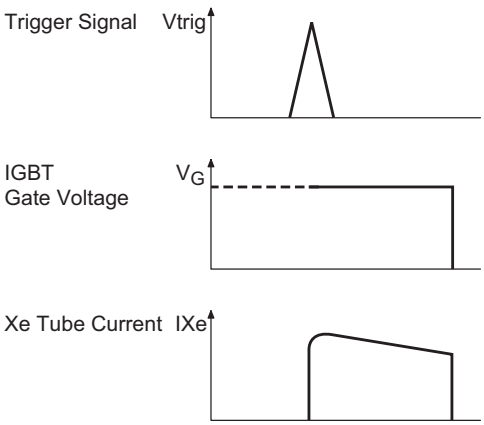
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	$V_{(BR)\ CES}$	450	—	—	V	I_C = 1 mA, V_{GE} = 0 V
Collector-emitter leakage current	I_{CES}	—	—	10	µA	V_{CE} = 400 V, V_{GE} = 0 V
Gate-emitter leakage current	I_{GES}	—	—	±0.1	µA	V_{GE} = ±6 V, V_{CE} = 0 V
Gate-emitter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

Performance Curves



Application Example





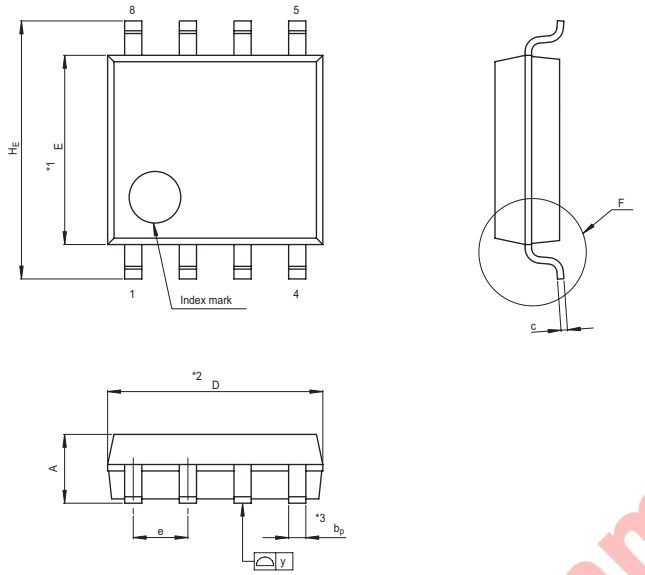
	Recommended Operation Conditions	Maximum Operation Conditions
V_{CM}	330 V	350 V
I_{CP}	120 A	130 A
C_M	300 µF	400 µF
V_{GE}	5 V	—

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 Ω, 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 µF). 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.

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