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April 1<sup>st</sup>, 2010 Renesas Electronics Corporation

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# CY20AAJ-8H

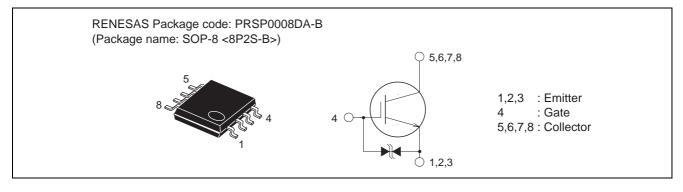
Nch IGBT for Strobe Flasher

REJ03G0282-0200 Rev.2.00 Nov 29, 2005

### Features

- V<sub>CES</sub> : 400 V
- I<sub>CM</sub> : 130 A
- Drive voltage : 4 V
- High speed switching

### Outline



### Applications

Strobe flasher for cameras

### **Maximum Ratings**

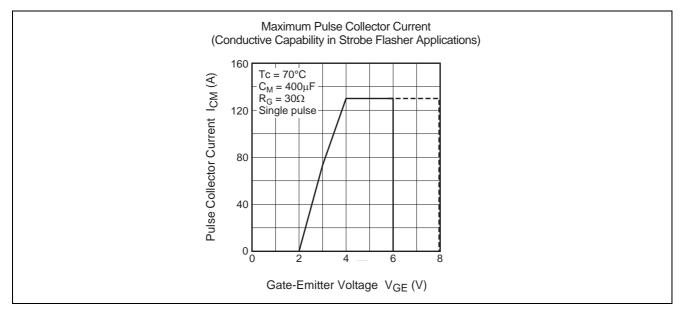
 $(Tc = 25^{\circ}C)$ 

Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V <sub>CES</sub>	400	V	$V_{GE} = 0 V$
Gate-emitter voltage	V <sub>GES</sub>	±6	V	$V_{CE} = 0 V$
Peak gate-emitter voltage	V <sub>GEM</sub>	±8	V	$V_{CE} = 0 V$ , tw = 10 s
Collector current (Pulse)	I <sub>CM</sub>	130	А	C <sub>M</sub> = 400 μF
				(see performance curve)
Junction temperature	Tj	- 40 to +150	°C	
Storage temperature	Tstg	- 40 to +150	°C	

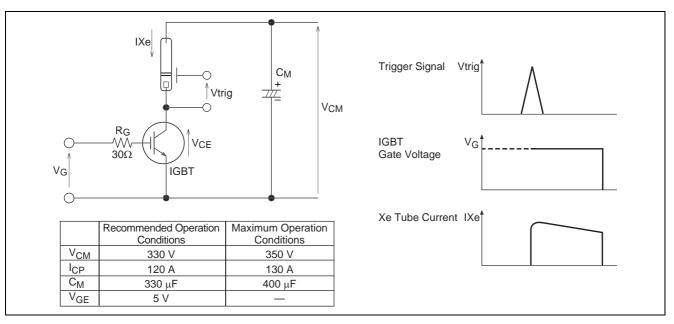
# **Electrical Characteristics**

						$(Tch = 25^{\circ}C)$
Parameter	Symbol	Min.	Тур.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	V <sub>(BR)CES</sub>	450	_	_	V	$I_C = 1 \text{ mA}, V_{GE} = 0 \text{ V}$
Collector-emitter leakage current	I <sub>CES</sub>	—	_	10	μA	$V_{CE} = 400 \text{ V}, \text{ V}_{GE} = 0 \text{ V}$
Gate-emitter leakage current	I <sub>GES</sub>	_		±10	μA	$V_{GE} = \pm 6 \text{ V},  V_{CE} = 0 \text{ V}$
Gate-emitter threshold voltage	$V_{\text{GE(th)}}$	0.5	0.8	1.5	V	$V_{CE} = 10 \text{ V}, I_{C} = 1 \text{ mA}$
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	_	4	8	V	$V_{CE} = 4 V, I_C = 130 A$
Fall time	t <sub>f</sub>		0.5		μs	$\label{eq:lc} \begin{array}{l} I_{C}=20 \text{ A}, \ V_{CC}=300 \text{ V},\\ \text{Resistive loads}\\ V_{GE}=5 \text{ V}, \ R_{G}=30 \ \Omega \end{array}$

### **Performance Curves**



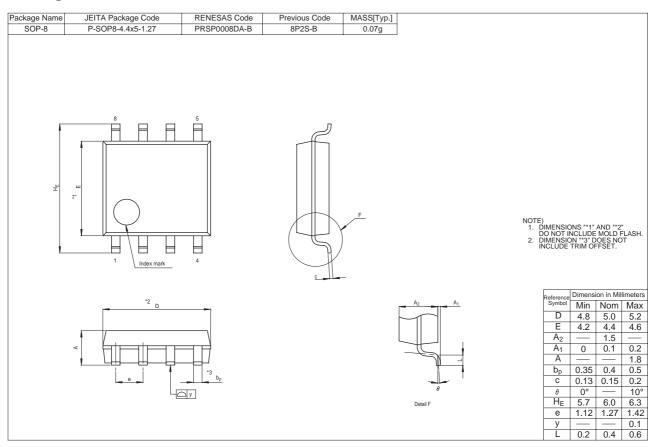
### **Application Example**



### **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 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.)
- 3. The operation life should be endured 5,000 shots under the charge current ( $I_{Xe} \le 130 \text{ A}$ : full luminescence condition) of main capacitor ( $C_M = 400 \ \mu\text{F}$ ) which can endure repeated discharge of 5,000 times. 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 when  $V_{GE}$  is driven at 6 V.

### **Package Dimensions**



### **Order Code**

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-8H-T13
Surface-mounted type	Plastic Magazine (Tube)	100	Type name	CY20AAJ-8H

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

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