To our customers,

Old Company Name in Catalogs and Other Documents

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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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CY20AAJ-8F

Nch IGBT for Strobe Flasher

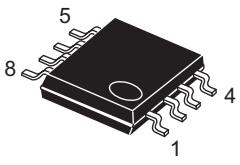
REJ03G0281-0100
Rev.1.00
Aug.20.2004

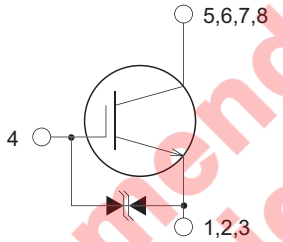
Features

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

Outline

SOP-8





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

Applications

Strobe flasher for cameras

Maximum Ratings

(Tc = 25°C)

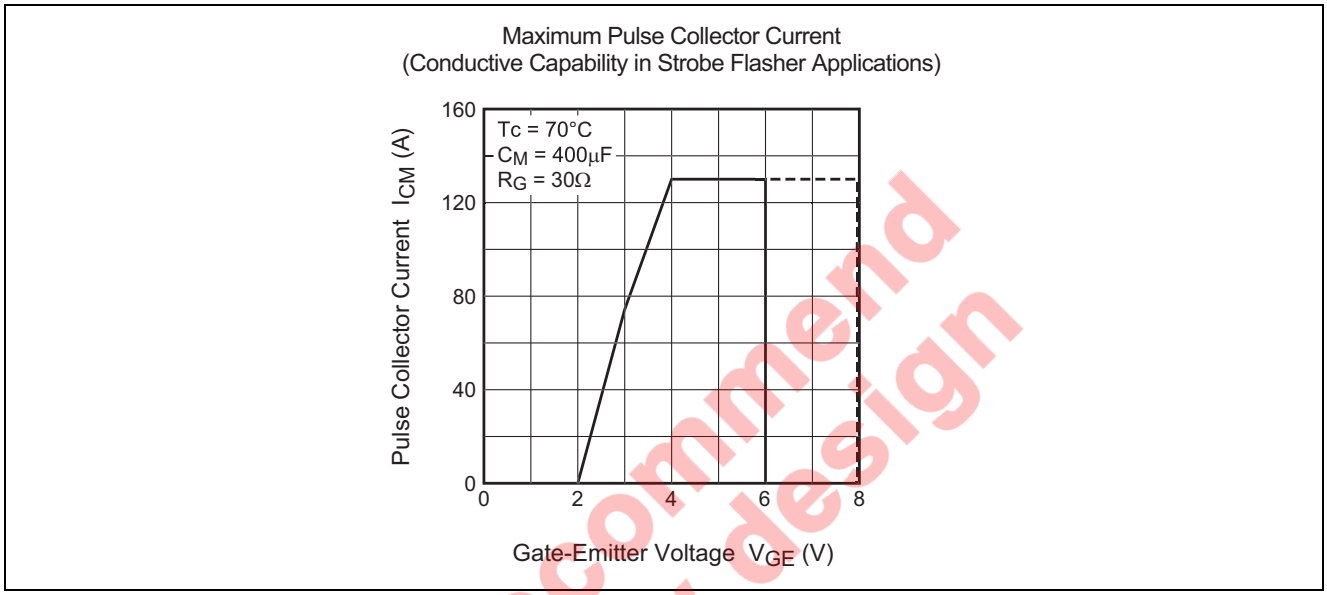
Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V_{CES}	400	V	V_{GE} = 0 V
Gate-emitter voltage	V_{GES}	±6	V	V_{CE} = 0 V
Peak gate-emitter voltage	V_{GEM}	±8	V	V_{CE} = 0 V, tw = 10 s
Collector current (Pulse)	I_{CM}	130	A	C_M = 400 µF (see performance curve)
Junction temperature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

Electrical Characteristics

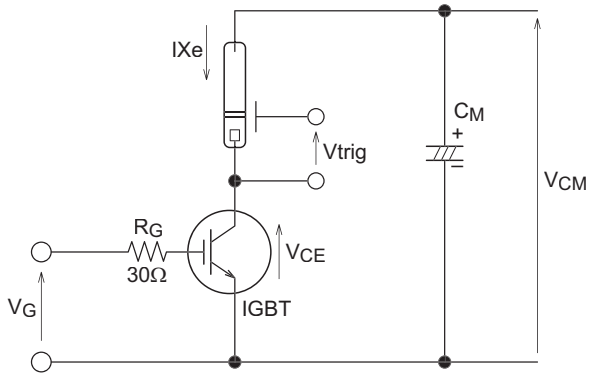
(Tch = 25°C)

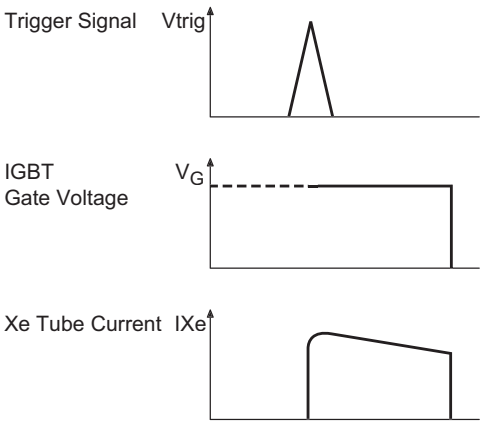
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	$V_{(BR)CES}$	450	—	—	V	I_C = 1 mA, V_{GE} = 0 V
Gate-emitter breakdown voltage	$V_{(BR)GES}$	±8	—	—	V	I_G = ±100 µA, V_{CE} = 0 V
Collector-emitter leakage current	I_{CES}	—	—	10	µA	V_{CE} = 400 V, V_{GE} = 0 V
Gate-emitter leakage current	I_{GES}	—	—	±10	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	330 µF	400 µF
V_{GE}	5 V	—

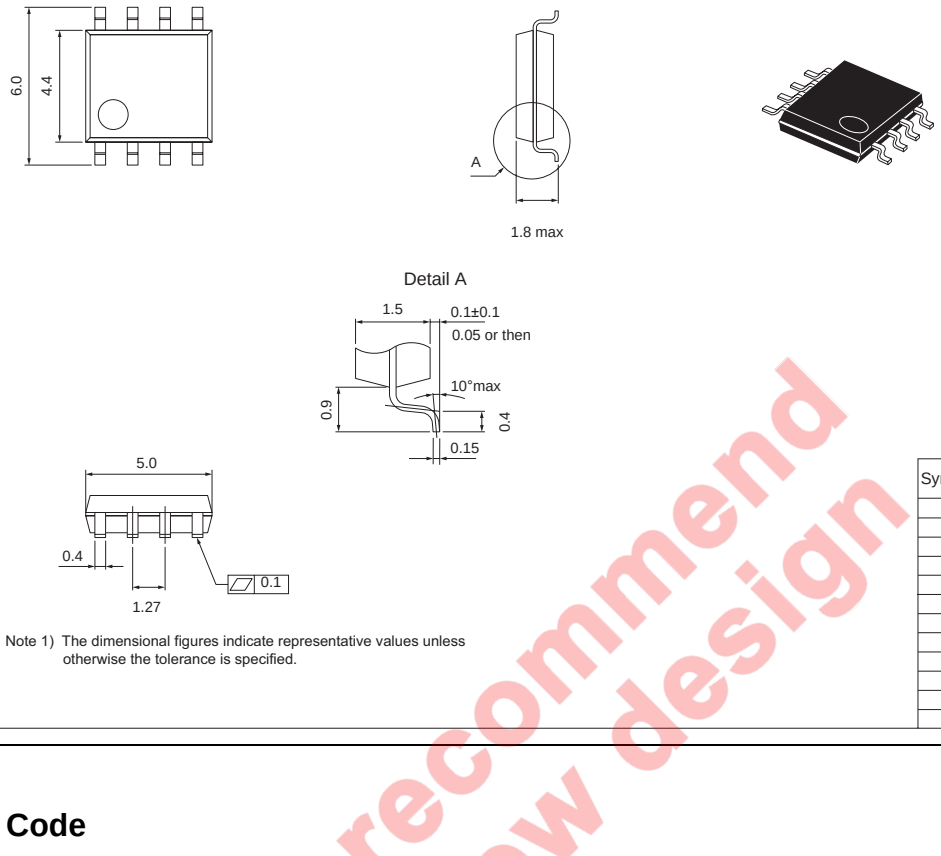
Precautions on Usage

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 Ω, it is satisfied.)
3. The operation life should be endured 5,000 shots under the charge current ($I_{Xe} \leq 130$ A : full luminescence condition) of main capacitor (C_M = 400 µF) 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.

Package Dimensions

8P2S-B(SOP-8)

EIAJ Package Code	JEDEC Code	Mass (g) (reference value)	Lead Material
—	Conforms	0.07	Cu alloy



Note 1) The dimensional figures indicate representative values unless otherwise the tolerance is specified.

Symbol	Dimension in Millimeters		
	Min	Typ	Max
A			
A_1			
A_2			
b			
D			
E			
e			
x			
y			
y_1			
ZD			
ZE			

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

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

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