CY20AAJ-8H

Nch IGBT for Strobe Flash
400V, 150A, 4V drive

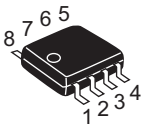
R07DS1007EJ0300
(Previous: REJ03G0282-0200)
Rev.3.00
Jan 30, 2013

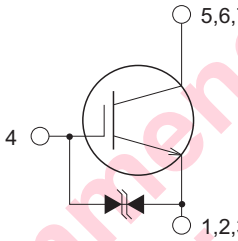
Features

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

Outline

RENESAS Package code: PRSP0008DD-D
(Package name: SOP-8<FP-8DAV>)





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	

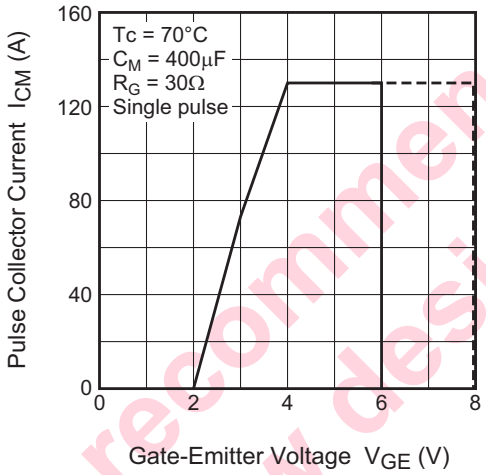
Electrical Characteristics

(Tch = 25°C)

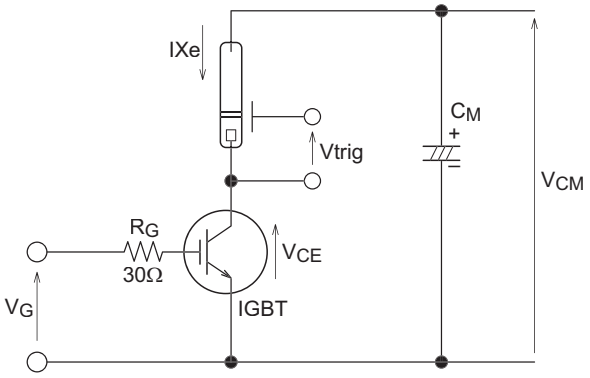
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	$V_{(BR)CES}$	450	—	—	V	I_C = 1 mA, V_{GE} = 0 V
Collector-emitter leakage current	I_{CES}	—	—	10	µA	V_{CE} = 400 V, V_{GE} = 0 V
Gate-emitter leakage current	I_{GES}	—	—	±10	µA	V_{GE} = ±6 V, V_{CE} = 0 V
Gate-emitter threshold voltage	$V_{GE(th)}$	0.5	0.8	1.5	V	V_{CE} = 10 V, I_C = 1 mA
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	4	8	V	V_{CE} = 4 V, I_C = 130 A
Fall time	t_f	—	0.5	—	µs	I_C = 20 A, V_{CC} = 300 V, Resistive loads V_{GE} = 5 V, R_G = 30 Ω

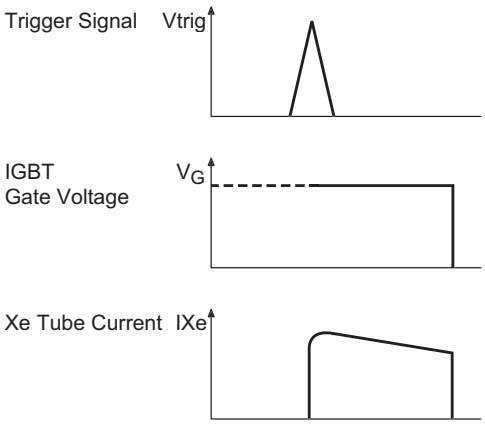
Performance Curves

Maximum Pulse Collector Current
(Conductive Capability in Strobe Flasher Applications)



Application Example





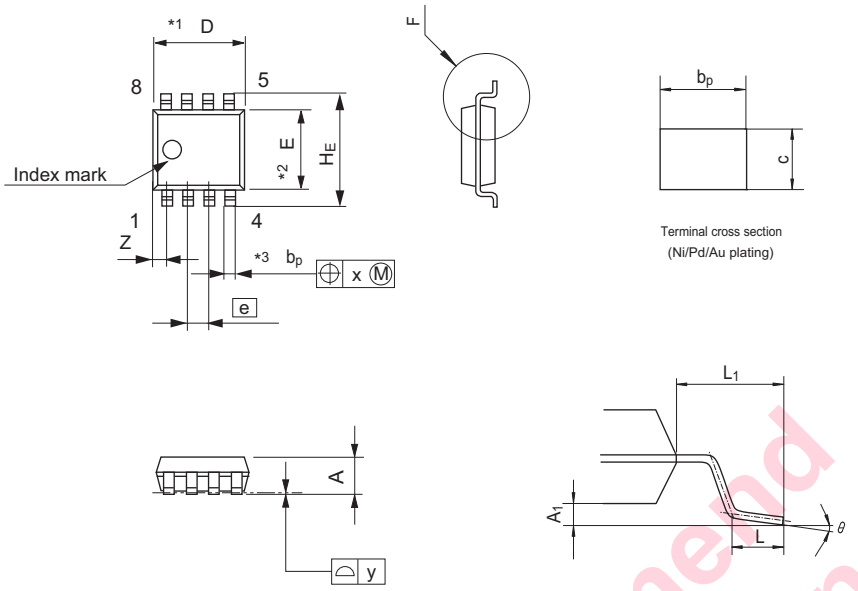
	Recommended Operation Conditions	Maximum Operation Conditions
V_{CM}	330 V	350 V
I_{CP}	120 A	130 A
C_M	330 μF	400 μF
V_{GE}	5 V	—

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 when V_{GE} is driven at 6 V.

Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
SOP-8	P-SOP8-3.95 × 4.9-1.27	PRSP0008DD-D	FP-8DAV	0.085g



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

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	—	4.90	5.3
E	—	3.95	—
A_2	—	—	—
A_1	0.10	0.14	0.25
A	—	—	1.75
b_p	0.34	0.40	0.46
b_1	—	—	—
c	0.15	0.20	0.25
c_1	—	—	—
θ	0°	—	8°
H_E	5.80	6.10	6.20
e	—	1.27	—
x	—	—	0.25
y	—	—	0.1
Z	—	—	0.75
L	0.40	0.60	1.27
L_1	—	1.08	—

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

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

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