

CY25BAH-8F

Nch IGBT for Strobe Flasher

REJ03G0284-0100

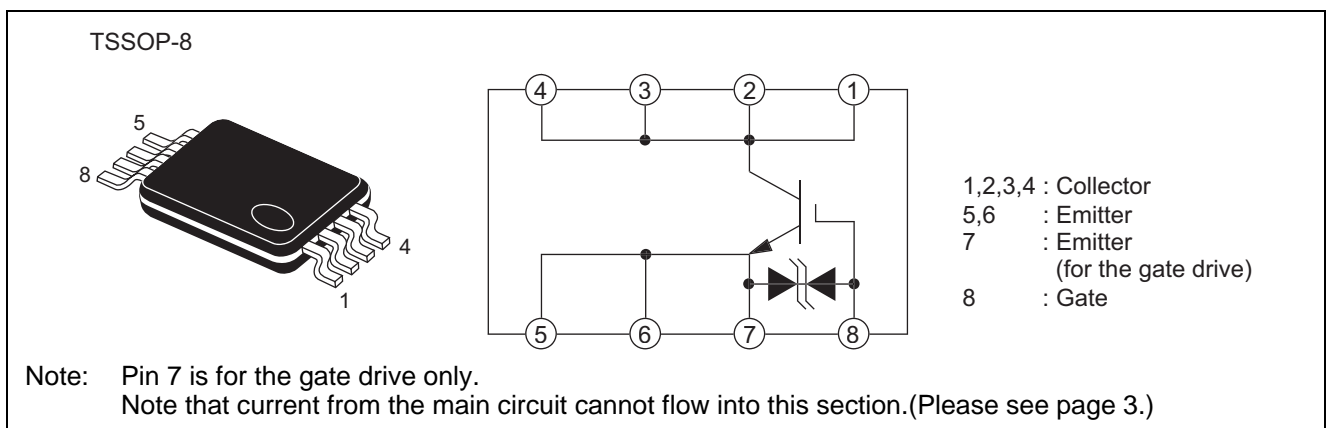
Rev.1.00

Aug.20.2004

Features

- Small surface mount package (TSSOP-8)
- V_{CES} : 400 V
- I_{CM} : 150 A
- Drive voltage : 2.5 V

Outline



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}	± 4	V	$V_{CE} = 0$ V
Peak gate-emitter voltage	V_{GEM}	± 6	V	$V_{CE} = 0$ V, $t_w = 10$ s
Collector current (Pulse)	I_{CM}	150	A	$C_M = 400$ μ F (see performance curve)
Junction temperature	T_j	- 40 to +150	°C	
Storage temperature	T_{stg}	- 40 to +150	°C	

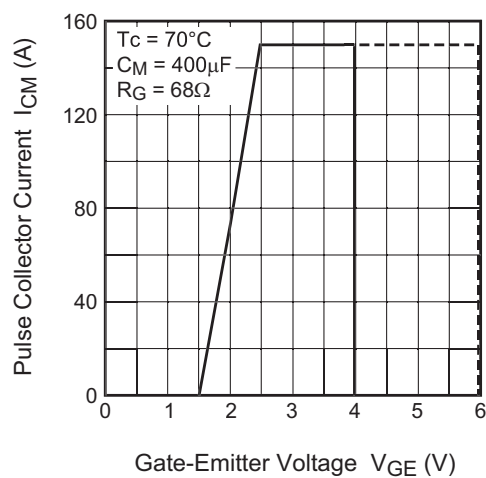
Electrical Characteristics

(Tch = 25°C)

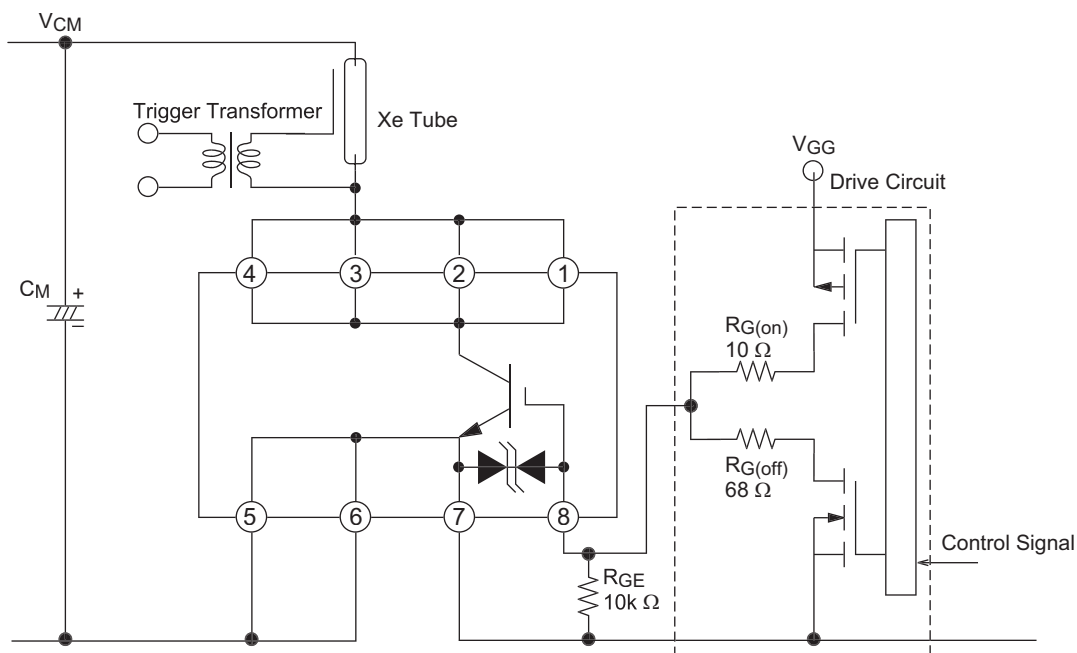
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Collector-emitter breakdown voltage	$V_{(BR)CES}$	450	—	—	V	$I_C = 1\text{ mA}$, $V_{GE} = 0\text{ V}$
Collector-emitter leakage current	I_{CES}	—	—	10	μA	$V_{CE} = 400\text{ V}$, $V_{GE} = 0\text{ V}$
Gate-emitter leakage current	I_{GES}	—	—	± 10	μA	$V_{GE} = \pm 6\text{ V}$, $V_{CE} = 0\text{ V}$
Gate-emitter threshold voltage	$V_{GE(th)}$	0.4	0.6	1.2	V	$V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	3.5	7.0	V	$I_C = 150\text{ A}$, $V_{GE} = 2.5\text{ V}$
Input capacitance	C_{ies}	—	6500	—	pF	$V_{CE} = 25\text{ V}$, $V_{GE} = 10\text{ V}$, $f = 1\text{ MHz}$

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}	130 A	150 A
C_M	300 μ F	400 μ F
V_{GE}	2.85 V	2.5 V

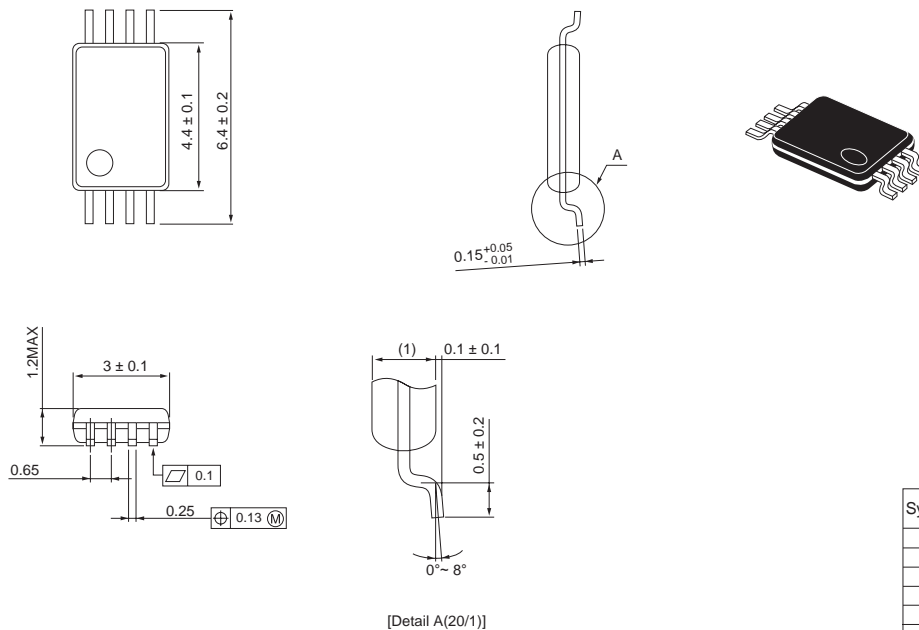
Precautions on Usage

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 25 mA. (In general, when $R_{G(off)} = 68\Omega$, it is satisfied.)
3. The ground of the drive signal must be connected to pin 7 only. If the emitter terminal pins 5 and 6 in which a large currents flow are given to the device as the drive signal emitter, the device may be damaged due to large currents since the specified gate voltage is not applied to the IGBT within the device.
4. The operation life should be endured 5,000 shots under the charge current ($I_{Xe} \leq 150$ A : full luminescence condition) of main capacitor ($C_M = 400 \mu F$) which can endure repeated discharge of 5,000 times. Repetition period under full luminescence condition is over 3 seconds.
5. Total operation hours applied to the gate-emitter voltage must be within 5,000 hours.

Package Dimensions

8P2J(TSSOP-8)

EIAJ Package Code	JEDEC Code	Mass (g) (reference value)	Lead Material
—	—	0.035	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	CY25BAH-8F-T13

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

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