


MITSUBISHI INSULATED GATE BIPOLAR TRANSISTOR

# CT20TM-8

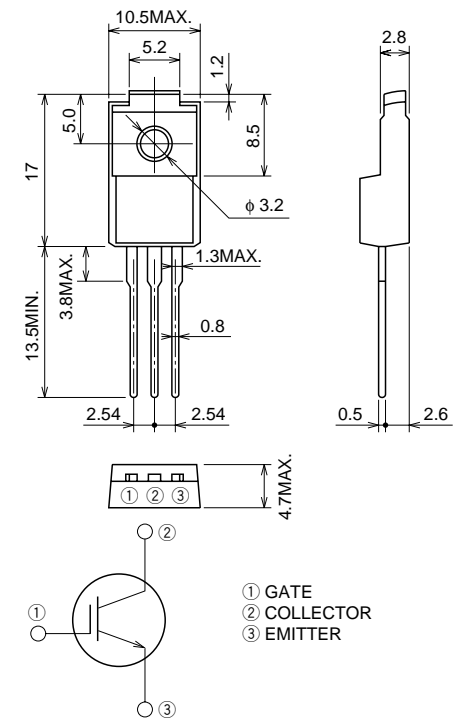
STROBE FLASHER USE

**CT20TM-8**



- VCES ..... 400V
- ICM ..... 130A

**OUTLINE DRAWING** Dimensions in mm



① GATE  
② COLLECTOR  
③ EMITTER

**TO-220F**

**APPLICATION**  
Strobe Flasher.

**MAXIMUM RATINGS** (Tc = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V <sub>CES</sub>	Collector-emitter voltage	V <sub>GE</sub> = 0V	400	V
V <sub>GES</sub>	Gate-emitter voltage	V <sub>CE</sub> = 0V, See notice 4	±30	V
V <sub>GEM</sub>	Peak gate-emitter voltage	V <sub>CE</sub> = 0V, t <sub>w</sub> = 0.5s	±40	V
I <sub>CM</sub>	Collector current (Pulsed)	See figure 1	130	A
T <sub>j</sub>	Junction temperature		-40 ~ +150	°C
T <sub>stg</sub>	Storage temperature		-40 ~ +150	°C

**ELECTRICAL CHARACTERISTICS** (T<sub>j</sub> = 25°C)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V(BR)CES	Collector-emitter breakdown voltage	I <sub>C</sub> = 1mA, V <sub>GE</sub> = 0V	450	—	—	V
I <sub>CES</sub>	Collector-emitter leakage current	V <sub>CE</sub> = 400V, V <sub>GE</sub> = 0V	—	—	10	μA
I <sub>GES</sub>	Gate-emitter leakage current	V <sub>GE</sub> = ±40V, V <sub>CE</sub> = 0V	—	—	±0.1	μA
V <sub>GE(th)</sub>	Gate-emitter threshold voltage	V <sub>CE</sub> = 10V, I <sub>C</sub> = 1mA	—	—	7.0	V

PERFORMANCE CURVES

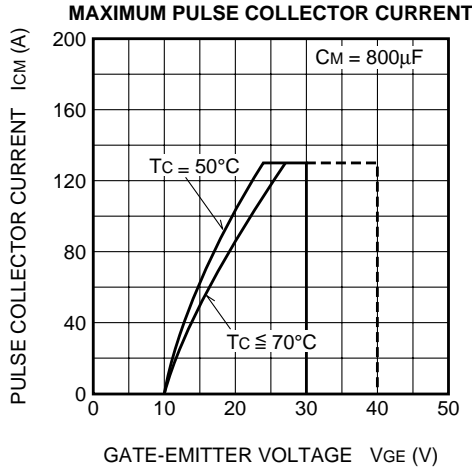


Figure 1

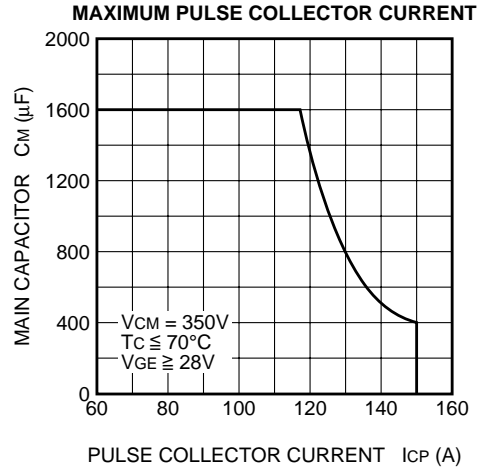
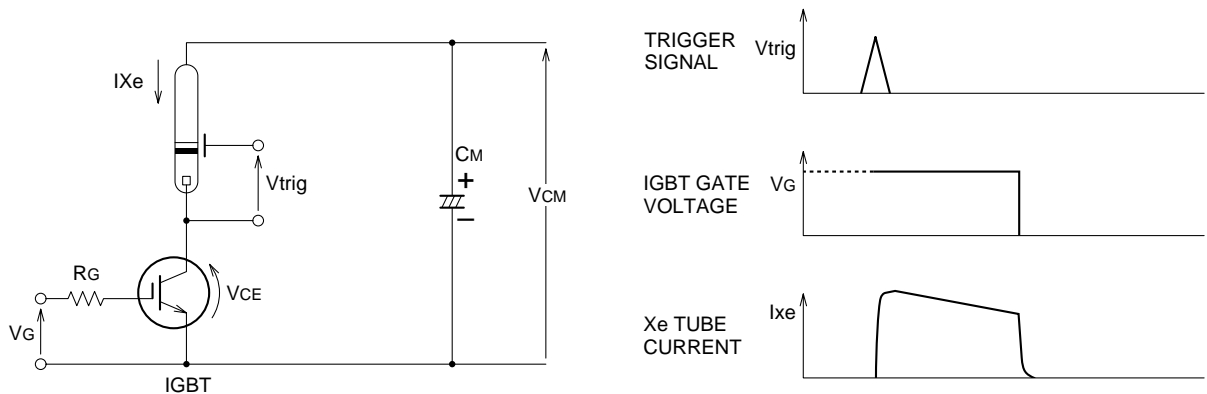


Figure 2

APPLICATION EXAMPLE



RECOMMEND CONDITION	MAXIMUM CONDITION
V <sub>CM</sub> = 330V	360V
I <sub>P</sub> = 120A	130A
C <sub>M</sub> = 700µF	800µF
V <sub>GE</sub> = 28V	

- Notice 1. Gate drive voltage during on-period must be applied to satisfy the rating of maximum pulse collector current. And reverse gate current during turn-off must be kept less than 1A. (In general, it is satisfied if R<sub>G</sub> ≥ 30Ω)
- Notice 2. IGBT has MOS structure and its gate is insulated by thin silicon oxide. So please handle carefully not to suffer from electrostatic charge.
- Notice 3. The operation life should be endured 5,000 shots under the charge current (I<sub>xe</sub> ≤ 130A : full luminescence condition) of main condenser (C<sub>M</sub>=800µF). Repetition period under full luminescence condition is over 3 seconds.
- Notice 4. Total operation hours must be applied within 5,000 hours.