


MITSUBISHI INSULATED GATE BIPOLAR TRANSISTOR

# CT20VML-8

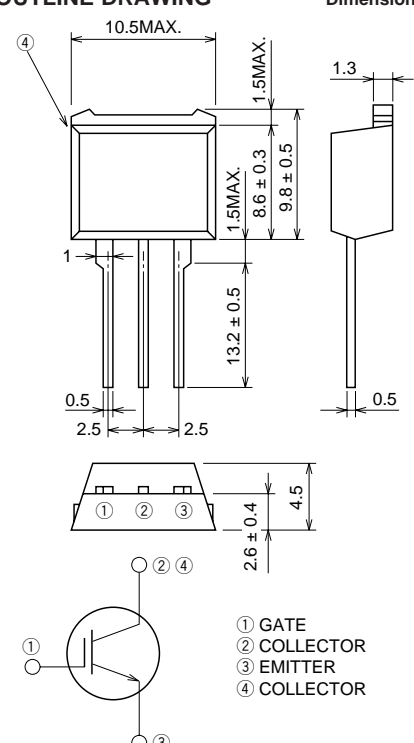
STROBE FLASHER USE

**CT20VML-8**



- $V_{CES}$  ..... 400V
- $I_{CM}$  ..... 130A

**OUTLINE DRAWING** Dimensions in mm



① GATE  
② COLLECTOR  
③ EMITTER  
④ COLLECTOR

**TO-220C**

**APPLICATION**  
Strobe Flasher.

**MAXIMUM RATINGS** ( $T_c = 25^\circ\text{C}$ )

Symbol	Parameter	Conditions	Ratings	Unit
$V_{CES}$	Collector-emitter voltage	$V_{GE} = 0V$	400	V
$V_{GES}$	Gate-emitter voltage	$V_{CE} = 0V$ , See notice 4	$\pm 15$	V
$V_{GEM}$	Peak gate-emitter voltage	$V_{CE} = 0V$ , $t_w = 10s$	$\pm 16$	V
$I_{CM}$	Collector current (Pulsed)	See figure 1	130	A
$T_j$	Junction temperature		$-40 \sim +150$	$^\circ\text{C}$
$T_{stg}$	Storage temperature		$-40 \sim +150$	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS** ( $T_j = 25^\circ\text{C}$ )

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
$V_{(BR)CES}$	Collector-emitter breakdown voltage	$I_C = 1mA$ , $V_{GE} = 0V$	450	—	—	V
$I_{CES}$	Collector-emitter leakage current	$V_{CE} = 400V$ , $V_{GE} = 0V$	—	—	10	$\mu\text{A}$
$I_{GES}$	Gate-emitter leakage current	$V_{GE} = \pm 16V$ , $V_{CE} = 0V$	—	—	$\pm 0.1$	$\mu\text{A}$
$V_{GE(th)}$	Gate-emitter threshold voltage	$V_{CE} = 10V$ , $I_C = 1mA$	0.5	—	2.0	V

PERFORMANCE CURVES

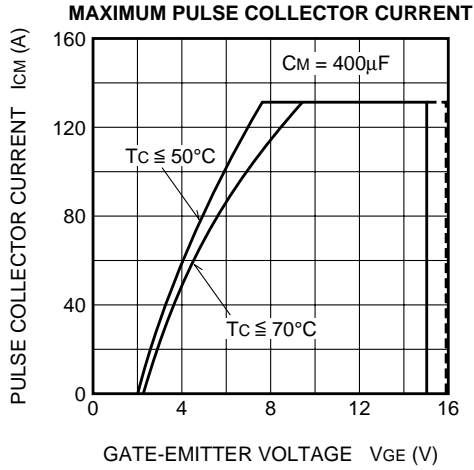
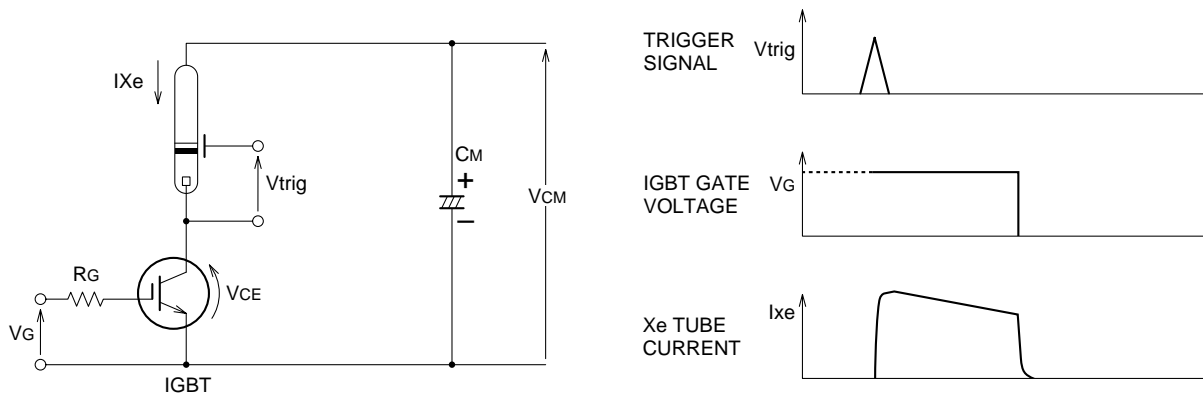


Figure 1

APPLICATION EXAMPLE



RECOMMEND CONDITION	MAXIMUM CONDITION
$V_{CM} = 330\text{V}$	350V
$I_P = 120\text{A}$	130A
$C_M = 300\mu\text{F}$	400µF
$V_{GE} = 12\text{V}$	

- 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 0.5A. (In general, it is satisfied if  $R_G \geq 47\Omega$ )
- 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 ( $I_{xe} \leq 130\text{A}$  : full luminescence condition) of main condenser ( $C_M=400\mu\text{F}$ ). Repetition period under full luminescence condition is over 3 seconds.
- Notice 4. Total operation hours must be applied within 5,000 hours.