

CT40KM-8H

Nch IGBT for Strobe Flasher

REJ03G0286-0200

Rev.2.00

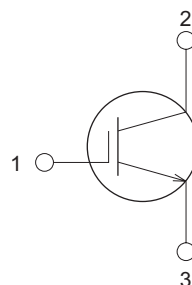
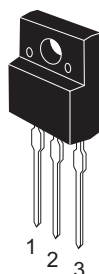
Jul. 07, 2005

Features

- V_{CES} : 400 V
- TO-220FN package
- High Speed Switching

Outline

RENESAS Package code: PRSS0003AB-A
(Package name: TO-220FN)



1 : Gate
2 : Collector
3 : Emitter

Applications

Strobe flashers

Maximum Ratings

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

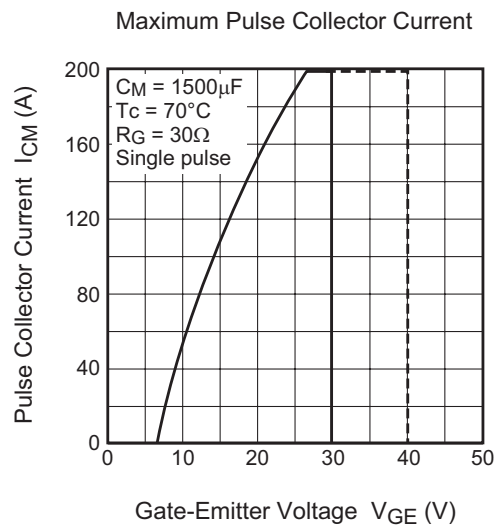
Parameter	Symbol	Ratings	Unit	Conditions
Collector-emitter voltage	V_{CES}	400	V	$V_{GE} = 0 \text{ V}$
Gate-emitter voltage	V_{GES}	30	V	$V_{CE} = 0 \text{ V}$, Refer to item 4 under Notes on the Actual Specifications
Peak gate-emitter voltage	V_{GEM}	40	V	$V_{CE} = 0 \text{ V}$, $t_w = 0.5 \text{ s}$
Collector current (Pulse)	I_{CM}	200	A	$C_M = 1500 \mu\text{F}$ (see performance curve)
Maximum power dissipation	P_C	45	W	
Junction temperature	T_j	– 40 to +150	$^\circ\text{C}$	
Storage temperature	T_{stg}	– 40 to +150	$^\circ\text{C}$	
Mass	—	2.0	g	Typical value

Electrical Characteristics

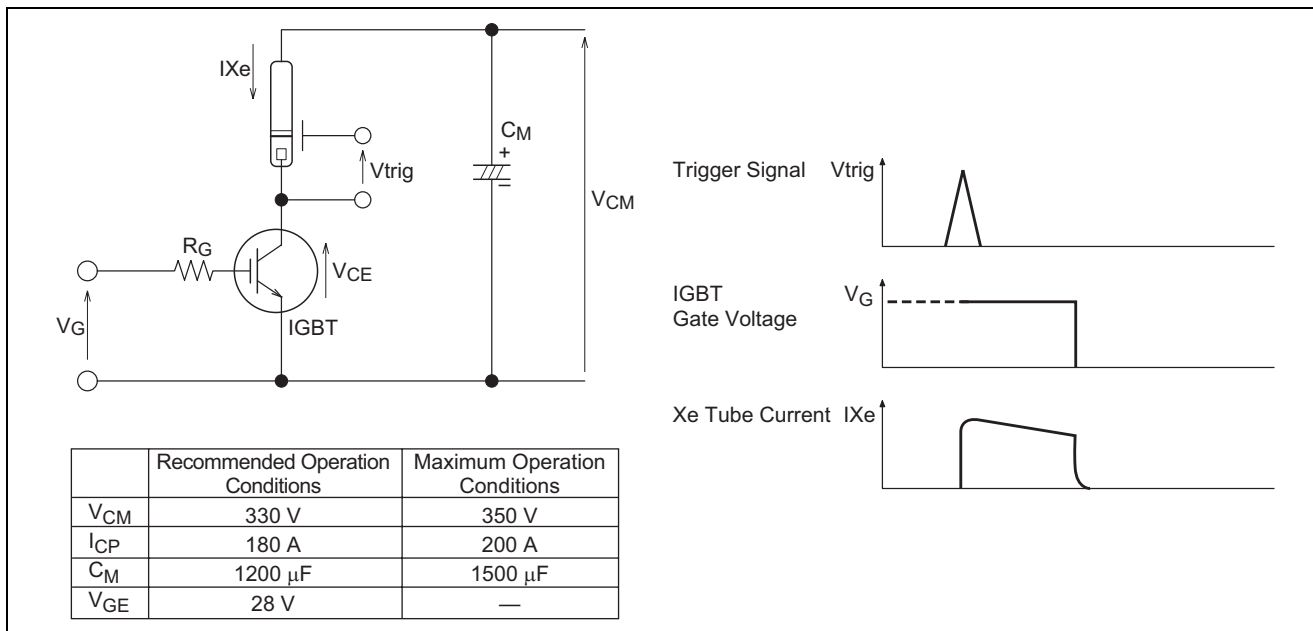
(T_j = 25°C)

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}	—	—	± 0.1	μA	$V_{GE} = \pm 40\text{ V}$, $V_{CE} = 0\text{ V}$
Gate-emitter threshold voltage	$V_{GE(th)}$	—	—	7.0	V	$V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$

Performance Curves



Application Example



Precautions on Usage

1. 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 1 A. (In general, when $R_{G(off)} = 30 \Omega$, it is satisfied.)
2. IGBT has MOS structure and its gate is insulated by thin silicon oxide. So please handle carefully to protect the device from electrostatic charge.
3. The operation life should be endured 5,000 shots under the charge current ($I_{Xe} \leq 200 A$: full luminescence condition) of main capacitor ($C_M = 1500 \mu F$) 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.

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