



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

TIG062E8

N-Channel IGBT
Light-Controlling Flash Applications

Features

- Low-saturation voltage.
- Low voltage drive (3V).
- Enhancement type.
- Built-in Gate-to-Emitter protection diode.
- Mounting Height 0.9mm, Mounting Area 8.12mm².
- dv / dt guarantee*.
- Halogen free compliance.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Emitter Voltage	V _{CES}		400	V
Gate-to-Emitter Voltage (DC)	V _{GES}		±6	V
Gate-to-Emitter Voltage (Pulse)	V _{GES}	PW≤1ms	±8	V
Collector Current (Pulse)	I _{CP1}	C _M =150μF, V _{GE} =3V	100	A
	I _{CP2}	C _M =100μF, V _{GE} =3.3V	130	A
	I _{CP3}	C _M =100μF, V _{GE} =4V	150	A
Maximum Collector-to-Emitter dv / dt	dV _{CE} / dt	V _{CE} ≤320V, starting Tch=25°C	400	V / μs
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-40 to +150	°C

Marking : ZC

* : Concerning dv / dt (slope of Collector Voltage at the time of Turn-OFF), $dv / dt > 400V / \mu s$ will be 100% screen-detected in the circuit shown as Fig. 1.

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TIG062E8

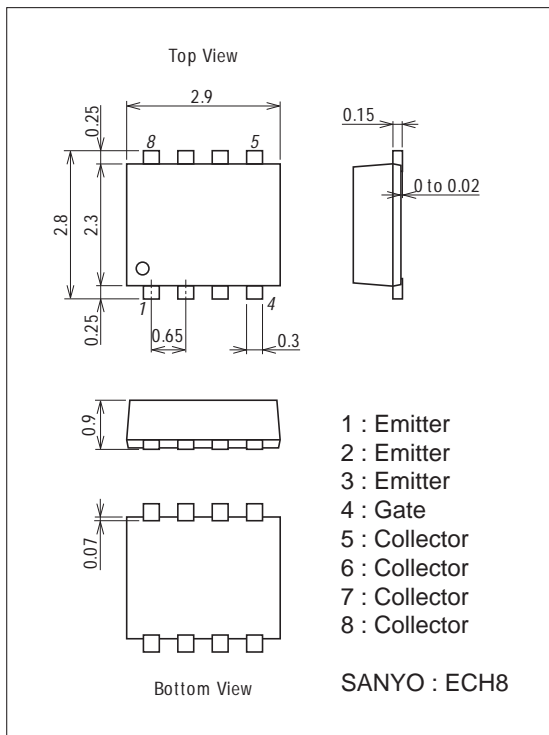
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=2mA, V_{GE}=0V$	400			V
Collector-to-Emitter Cutoff Current	I_{CES}	$V_{CE}=320V, V_{GE}=0V$			10	μA
Gate-to-Emitter Leakage Current	I_{GES}	$V_{GE}=\pm 6V, V_{CE}=0V$			± 10	μA
Gate-to-Emitter Threshold Voltage	$V_{GE(off)}$	$V_{CE}=10V, I_C=1mA$	0.4		0.9	V
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100A, V_{GE}=3V$		5	8	V
Input Capacitance	C_{ies}	$V_{CE}=10V, f=1MHz$		2400		pF
Output Capacitance	C_{oes}	$V_{CE}=10V, f=1MHz$		32		pF
Reverse Transfer Capacitance	C_{res}	$V_{CE}=10V, f=1MHz$		24		pF

Package Dimensions

unit : mm (typ)

7011A-004



Electrical Connection

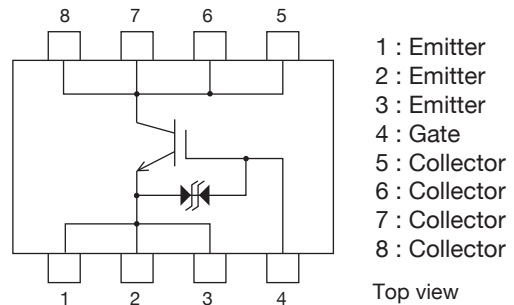
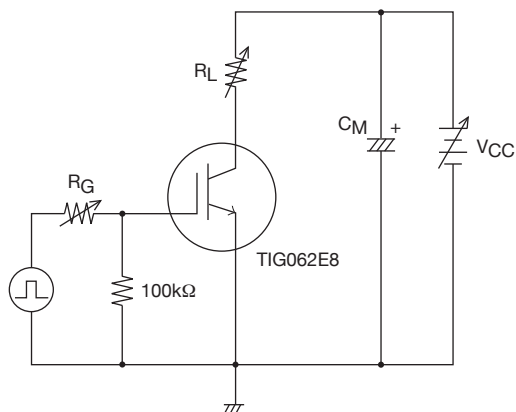
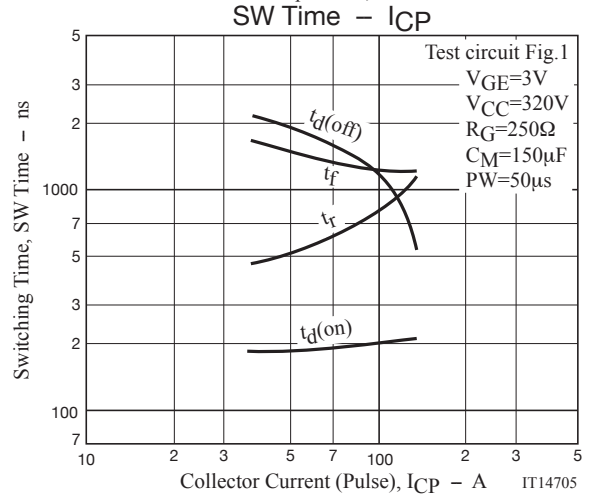
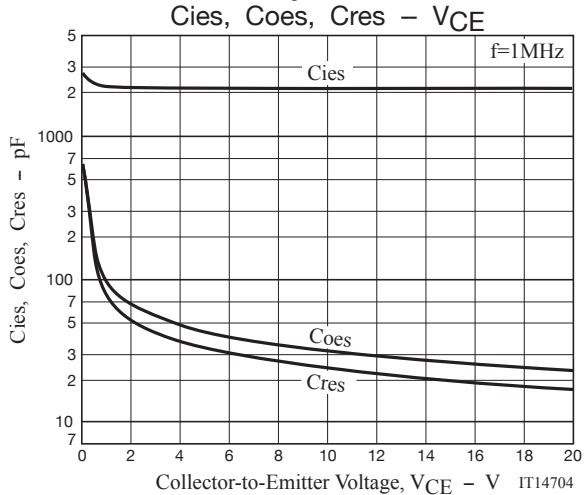
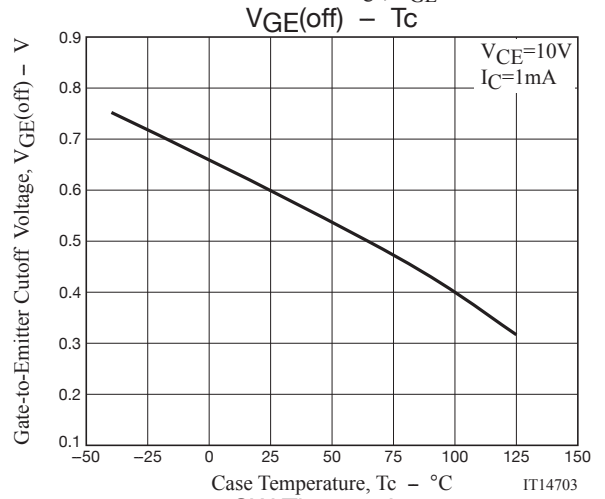
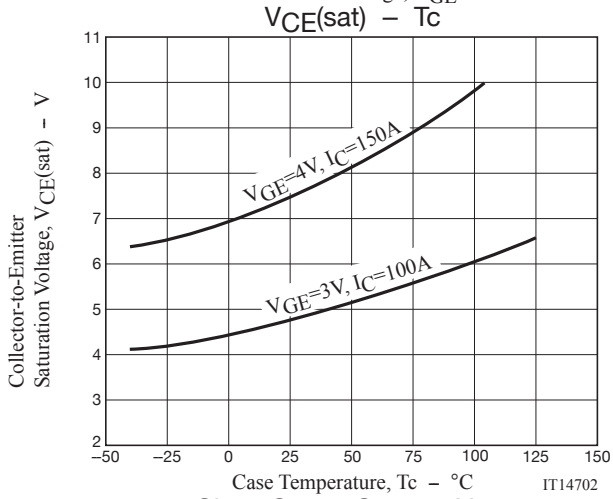
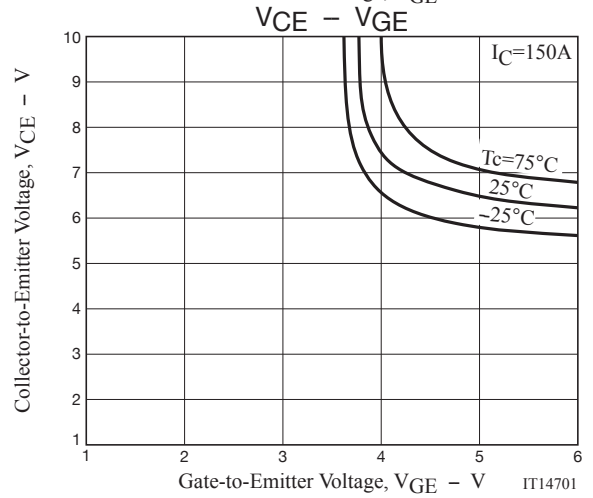
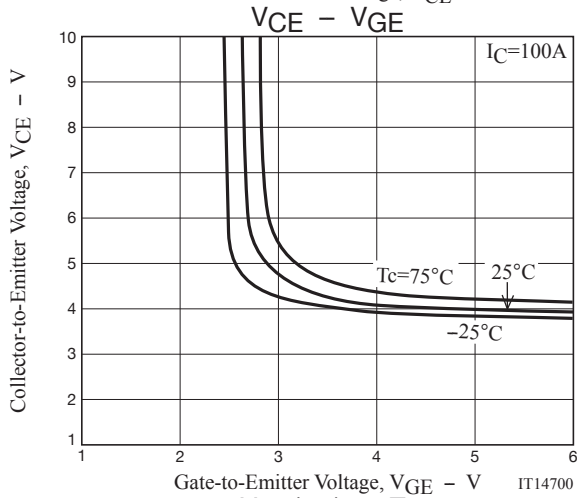
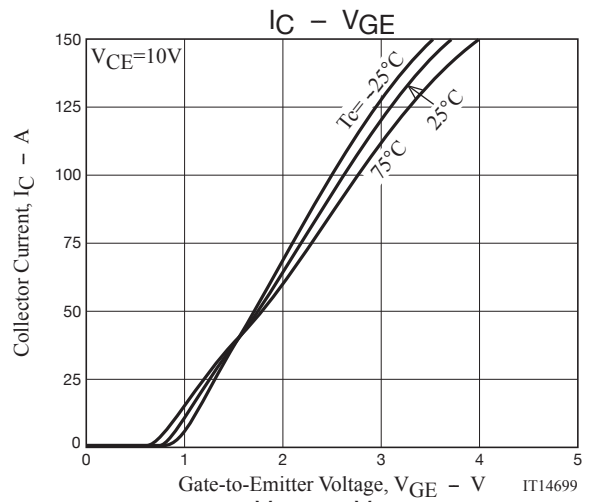
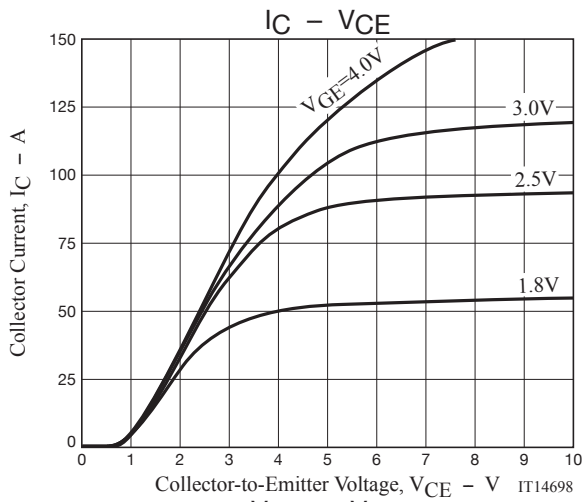


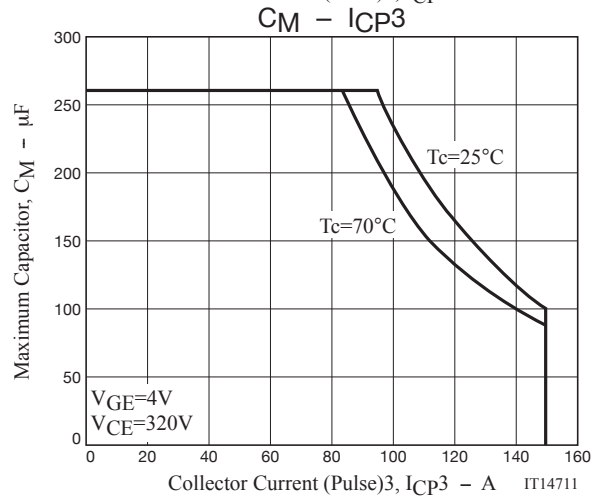
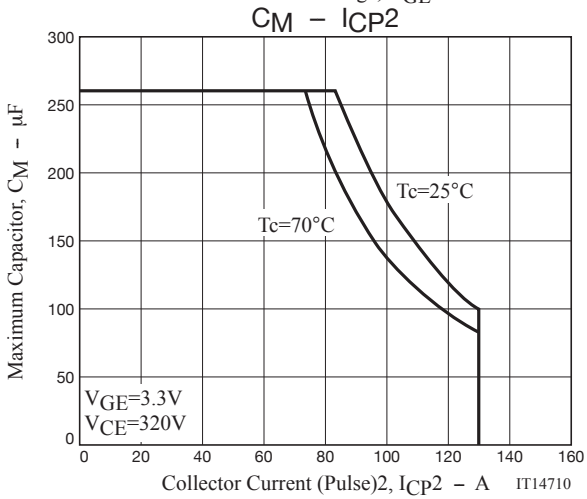
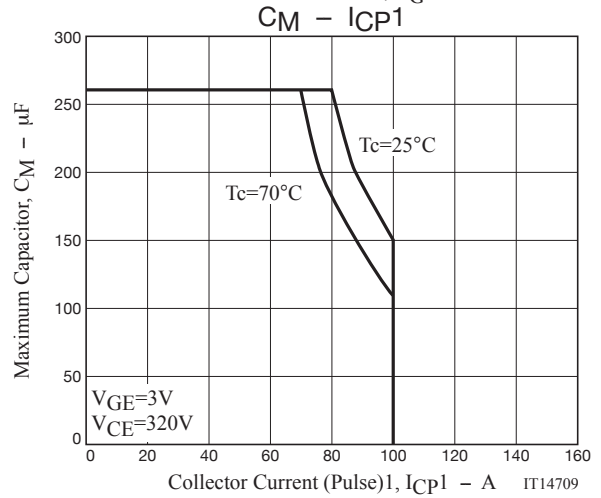
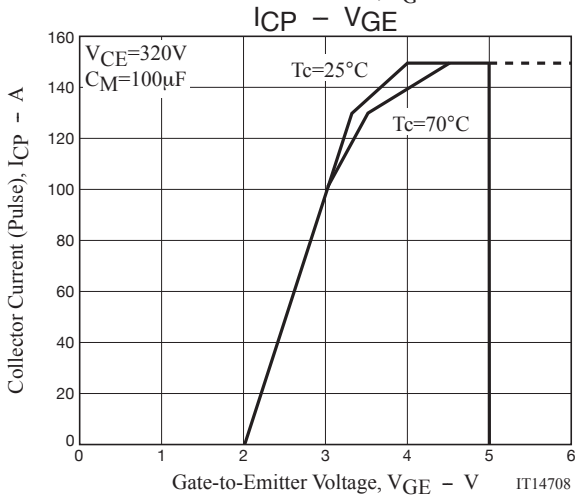
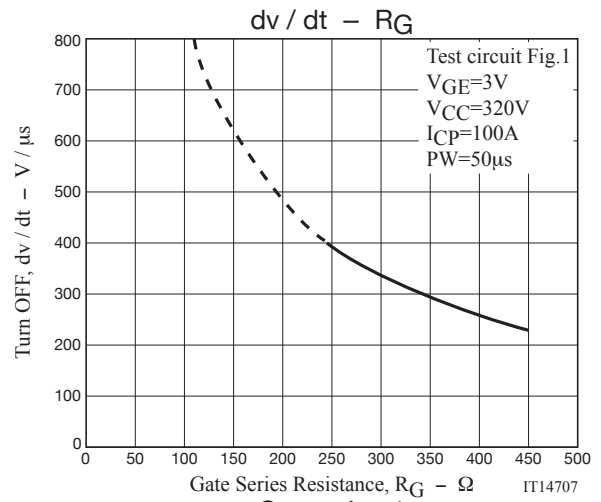
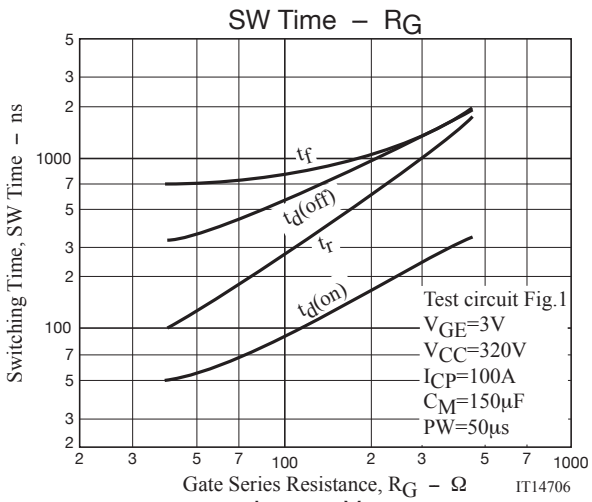
Fig.1 Large Current R Load Switching Circuit



Note1. Gate Series Resistance $R_G \geq 250\Omega$ is recommended for protection purpose at the time of turn OFF. However, if $dv/dt \leq 400V/\mu s$ is satisfied at customer's actual set evaluation, $R_G < 250\Omega$ can also be used.

Note2. The collector voltage gradient dv/dt must be smaller than $400V/\mu s$ to protect the device when it is turned off.





Note : TIG062E8 has protection diode between gate and emitter but handling it requires sufficient care to be taken.

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