



SANYO Semiconductors

DATA SHEET

TIG014TS

N-Channel IGBT
Light-Controlling Flash Applications

Features

- Low-saturation voltage.
- 4V drive.
- Enhancement type.
- Built-in Gate-to-Emitter protection diode.
- Mounting Height 1.1mm, Mounting Area 19.2mm².

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 _{CP}	PW≤500μs, duty cycle≤0.5%	150	A
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-40 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Breakdown Voltage	V _(BR) CES	I _C =5mA, V _{GE} =0	400			V
Collector-to-Emitter Cutoff Current	I _{CES}	V _{CE} =320V, V _{GE} =0			10	μA
Gate-to-Emitter Leakage Current	I _{GES}	V _{GE} =±6V, V _{CE} =0			±10	μA
Gate-to-Emitter Threshold Voltage	V _{GE(off)}	V _{CE} =10V, I _C =1mA	0.5		1.2	V
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =150A, V _{GE} =4V		4.2	5.8	V
Input Capacitance	C _{ies}	V _{CE} =10V, f=1MHz		4400		pF
Output Capacitance	C _{oes}	V _{CE} =10V, f=1MHz		65		pF
Reverse Transfer Capacitance	C _{res}	V _{CE} =10V, f=1MHz		60		pF

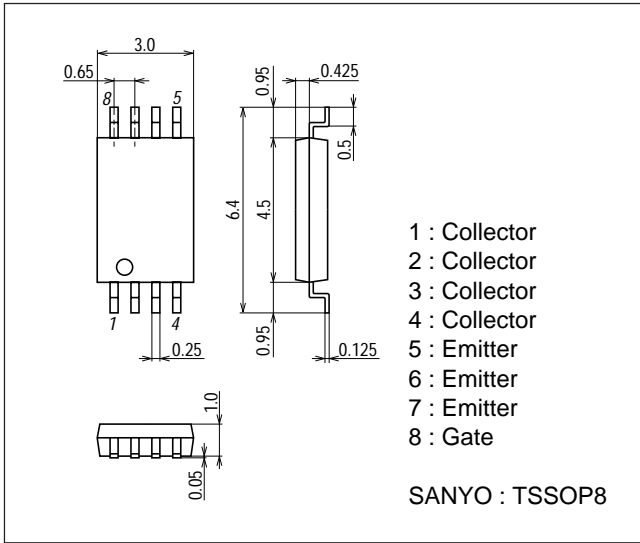
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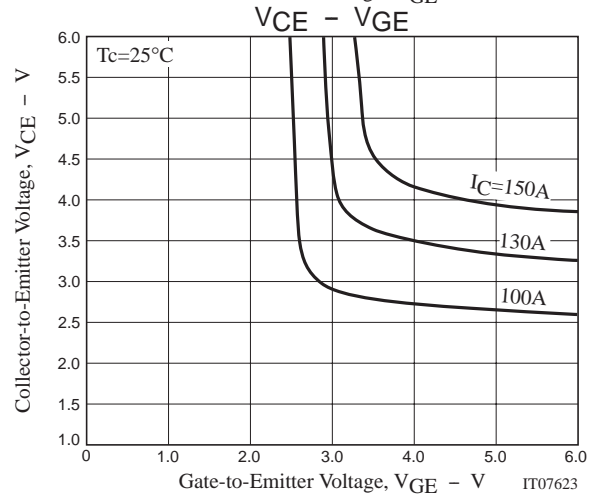
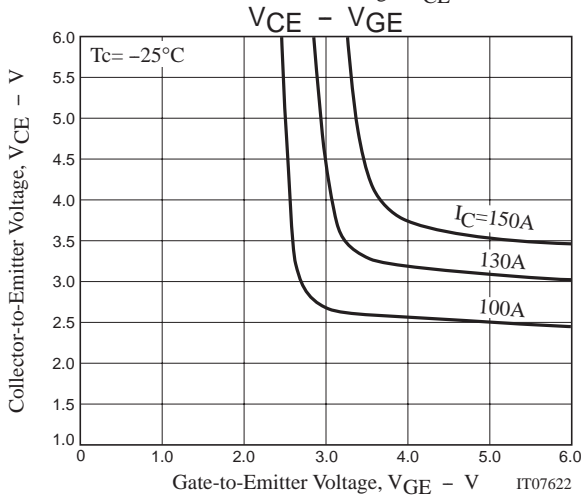
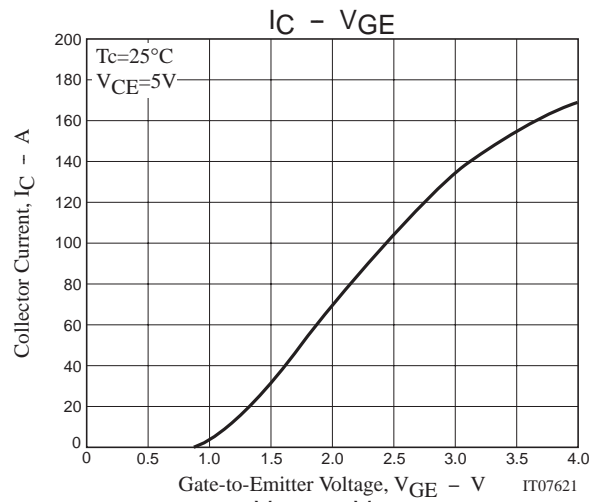
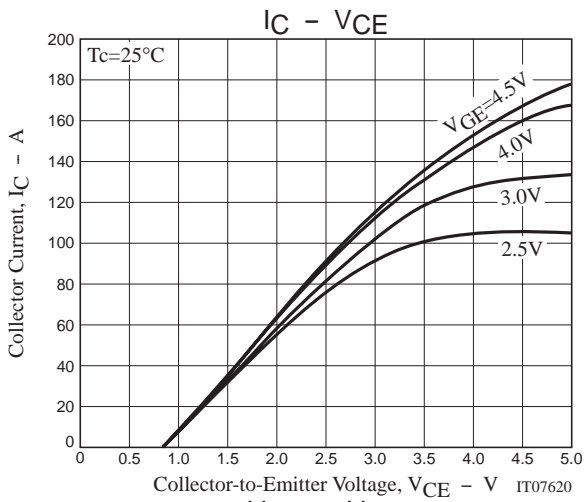
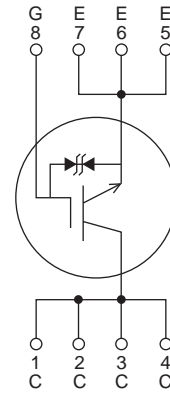
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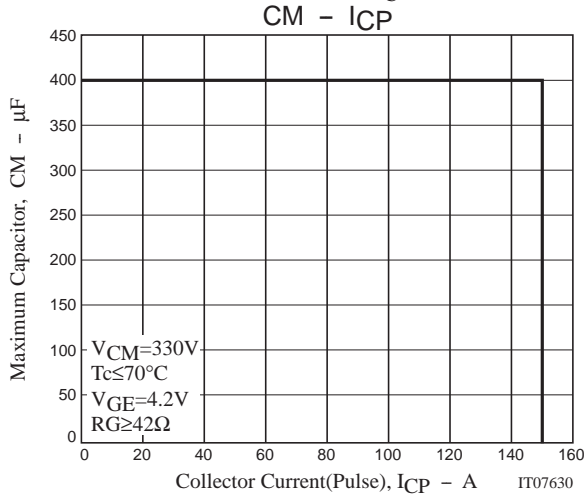
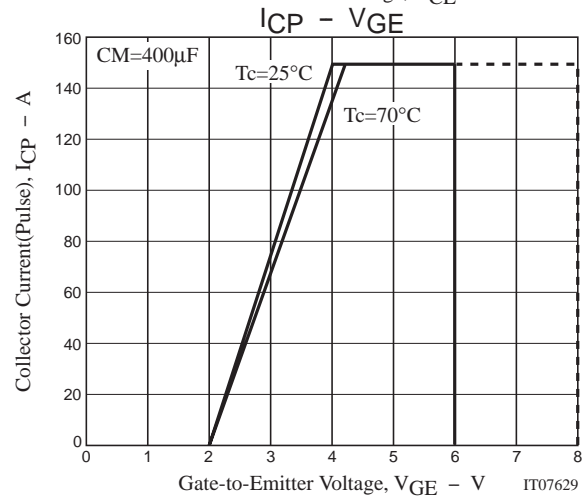
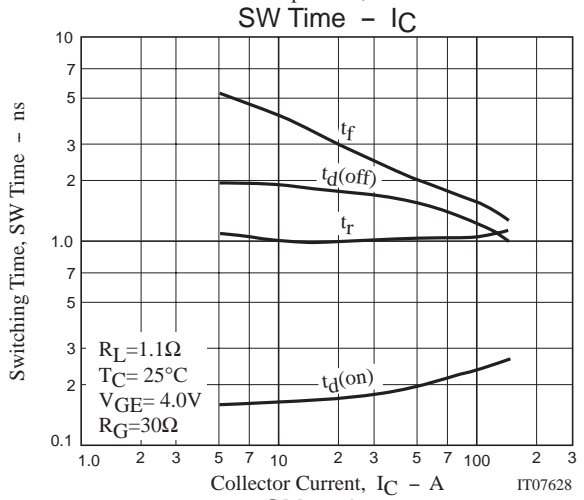
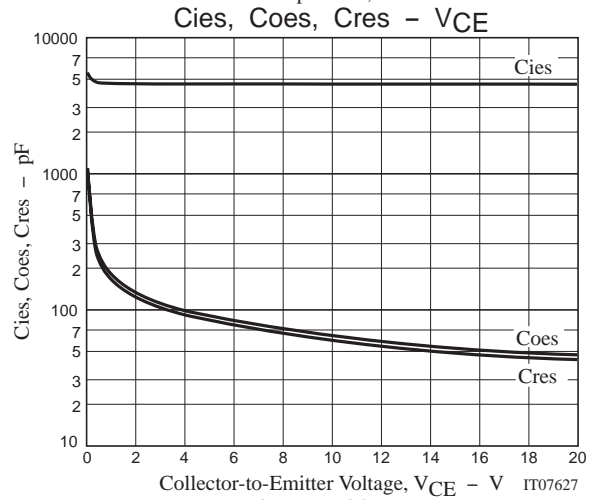
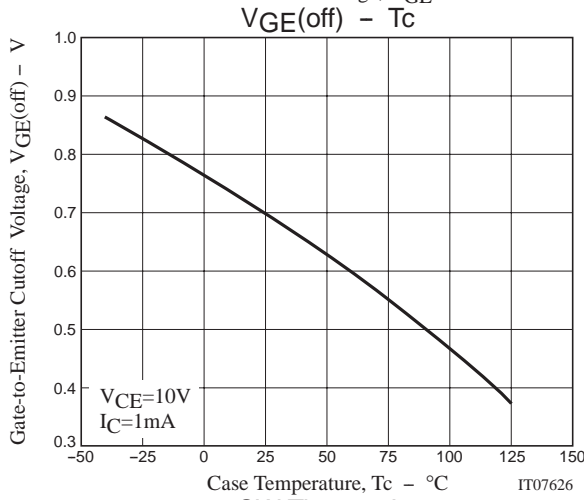
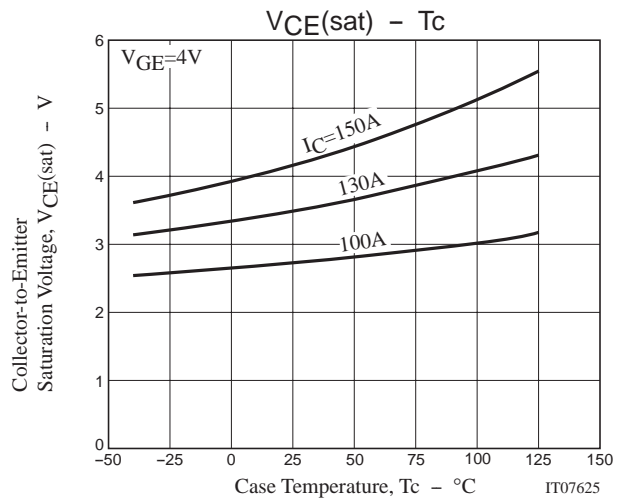
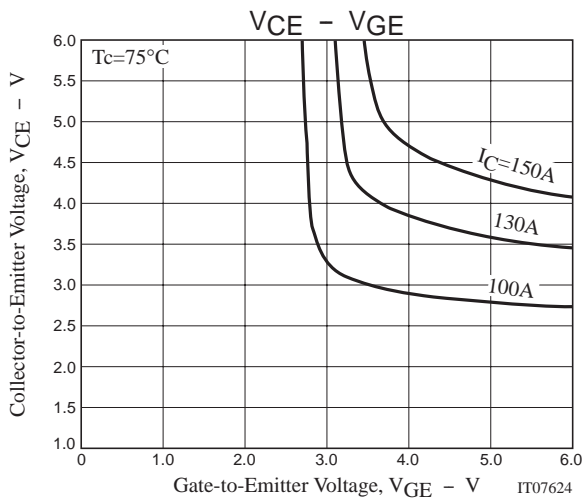
Package Dimensions

unit : mm
2244



Electrical Connection





Note1. The gate series resistance R_G must be 42Ω or more to protect the device when it is turned off.

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

Note : TIG014TS has protection diode between gate and emitter but handling it requires sufficient care to be taken.

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