



# 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 19.2mm<sup>2</sup>.

### Specifications

**Absolute Maximum Ratings** at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Emitter Voltage	V <sub>CES</sub>		400	V
Gate-to-Emitter Voltage (DC)	V <sub>GES</sub>		±6	V
Gate-to-Emitter Voltage (Pulse)	V <sub>GES</sub>	PW≤1ms	±8	V
Collector Current (Pulse)	I <sub>CP</sub>	PW≤500μs, duty cycle≤0.5%	150	A
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-40 to +150	°C

**Electrical Characteristics** at Ta=25°C

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

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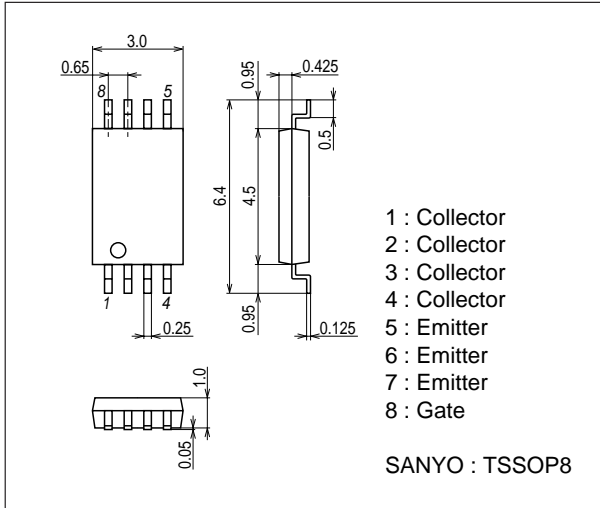
**SANYO Electric Co.,Ltd. Semiconductor Company**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

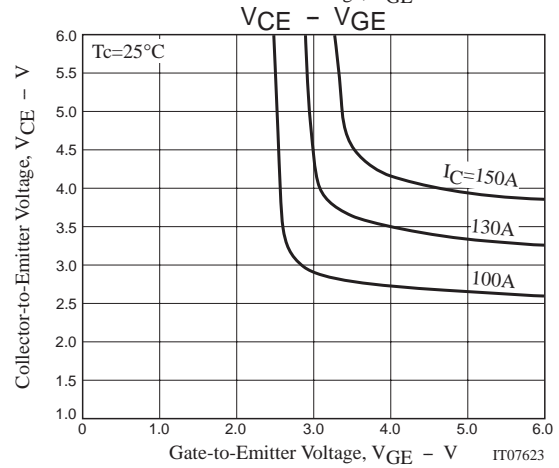
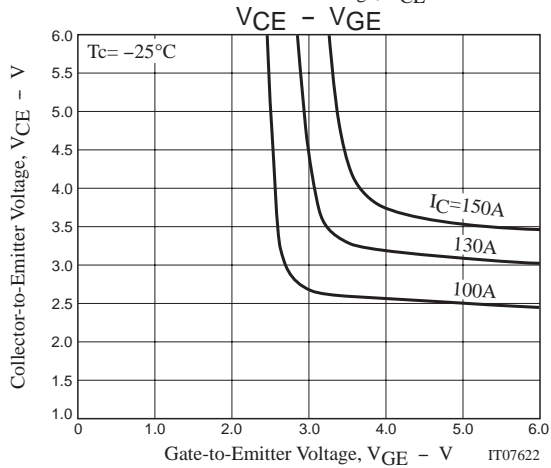
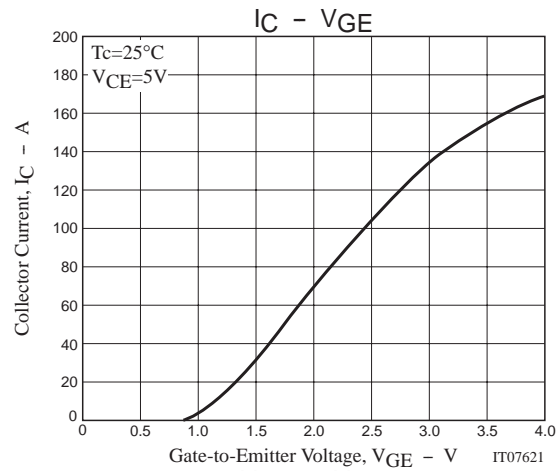
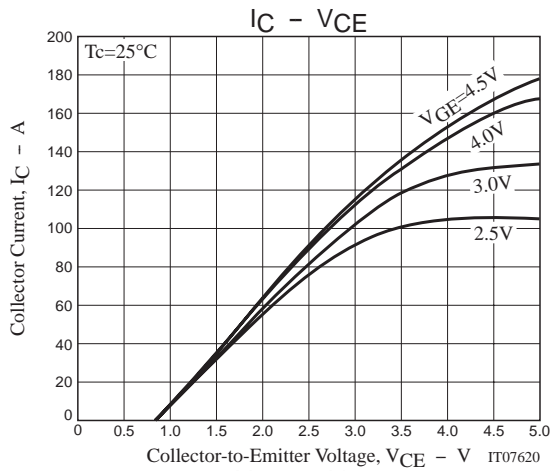
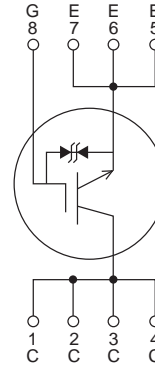
# TIG014TS

## Package Dimensions

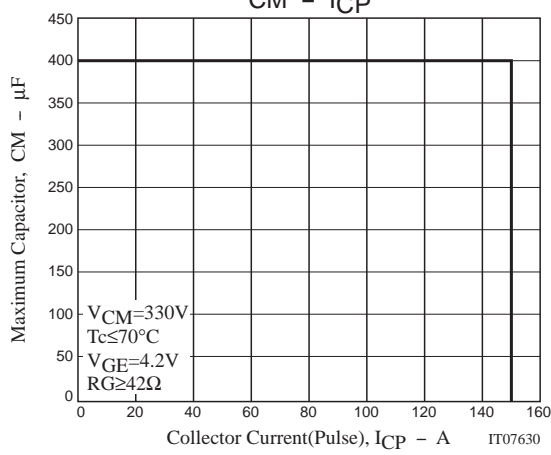
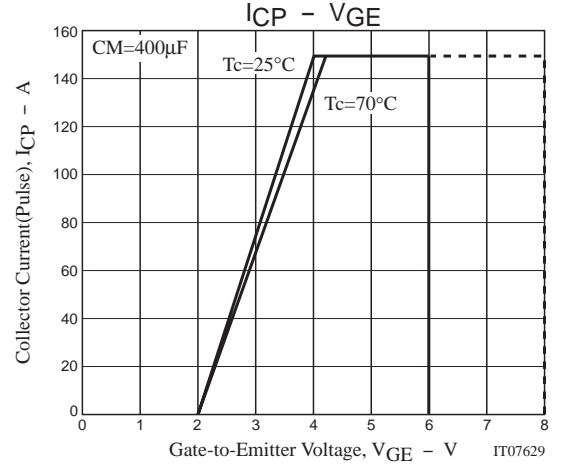
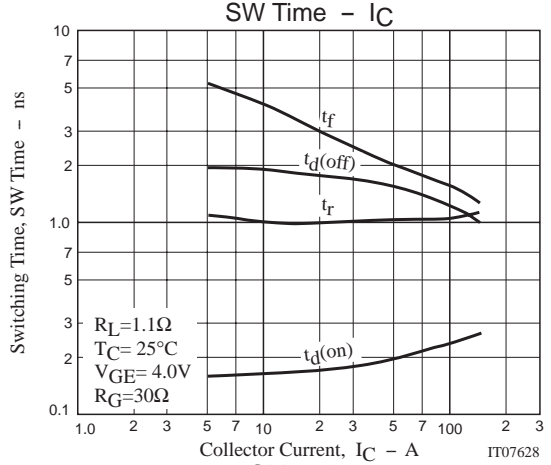
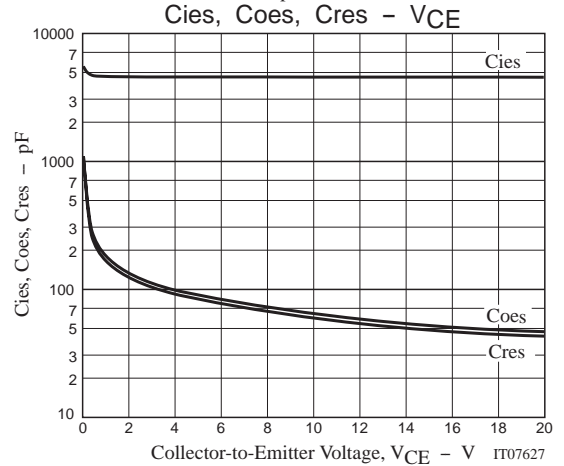
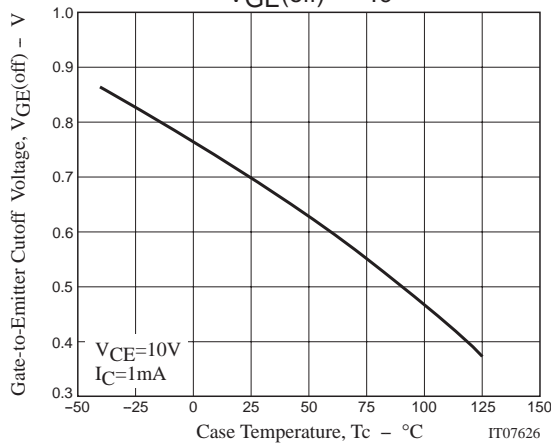
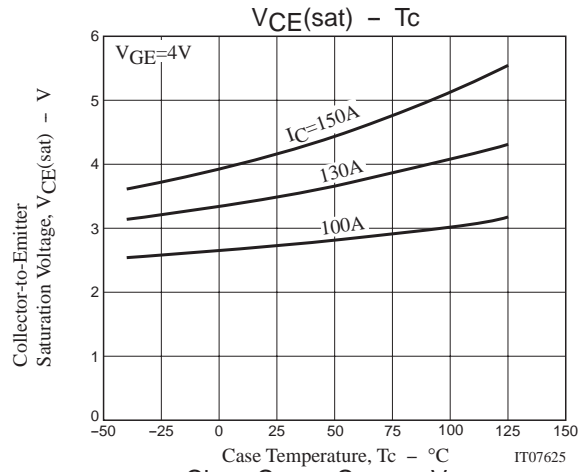
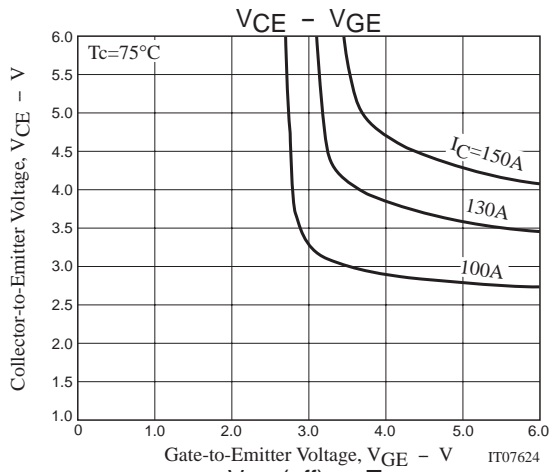
unit : mm  
2244



## Electrical Connection



# TIG014TS



## TIG014TS

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Note1. The gate series resistance  $R_G$  must be  $42\Omega$  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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