Unit: mm

## TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SC5411

HORIZONTAL DEFLECTION OUTPUT FOR HIGH RESOLUTION DISPLAY, COLOR TV HIGH SPEED SWITCHING APPLICATIONS

 $\begin{array}{ll} \bullet & \mbox{High Voltage} & : \mbox{$V_{CBO} = 1500$ V$} \\ \bullet & \mbox{Low Saturation Voltage} & : \mbox{$V_{CE}$ (sat) = 3 V (Max.)$} \\ \bullet & \mbox{High Speed} & : \mbox{$t_f = 0.15$ $\mu s (Typ.)$} \\ \end{array}$ 

• Collector Metal (Fin) is Fully Covered with Mold Resin.

## **MAXIMUM RATINGS (Tc = 25°C)**

CHARACTERISTIC		SYMBOL	RATING	UNIT	
Collector-Base Voltage		V <sub>CBO</sub>	1500	V	
Collector-Emitter Voltage		V <sub>CEO</sub>	600	V	
Emitter-Base Voltage		V <sub>EBO</sub>	5	V	
Collector Current	DC	Ic	14	Α	
	Pulse	I <sub>CP</sub>	28		
Base Current		Ι <sub>Β</sub>	7	Α	
Collector Power Dissipation		PC	60	W	
Junction Temperature		Tj	150	°C	
Storage Temperature Range		T <sub>stg</sub>	-55~150	°C	

# 1. Base 2. Collector 3. Emitter JEDEC — JEITA —

2-16E3A

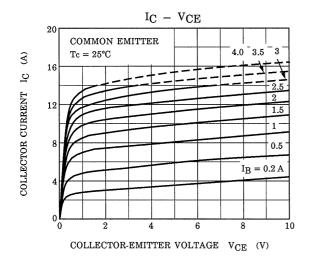
Weight: 5.5 g (typ.)

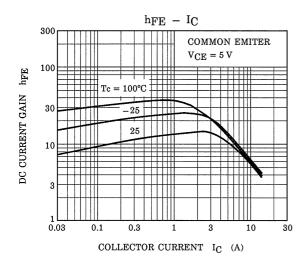
TOSHIBA

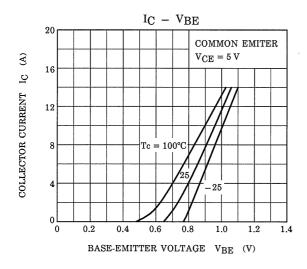
# **ELECTRICAL CHARACTERISTICS (Tc = 25°C)**

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Collector Cut-off Current		I <sub>CBO</sub>	V <sub>CB</sub> = 1500 V, I <sub>E</sub> = 0	_	_	1	mA
Emitter Cut-off Current		I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0	_	_	10	μA
Emitter-Base Breakdo	wn Voltage	V (BR) CEO	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	600	_	_	V
DC Current Gain		h <sub>FE (1)</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 2 A	10	_	40	-
		h <sub>FE (2)</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 11 A	4	_	8	
Collector-Emitter Saturation Voltage		V <sub>CE (sat)</sub>	I <sub>C</sub> = 11 A, I <sub>B</sub> = 2.75 A	_	_	3	V
Base-Emitter Saturation Voltage		V <sub>BE</sub> (sat)	I <sub>C</sub> = 11 A, I <sub>B</sub> = 2.75 A	_	1.0	1.5	V
Transition Frequency		f <sub>T</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 0.1 A	_	2	_	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz	_	190	_	pF
Switching Time	Storage Time	t <sub>stg</sub>	I <sub>CP</sub> = 8.5 A, I <sub>B1</sub> (end) = 1.6 A f <sub>H</sub> = 64 kHz	_	2.5	3.5	- µs
	Fall Time	t <sub>f</sub>		_	0.15	0.3	

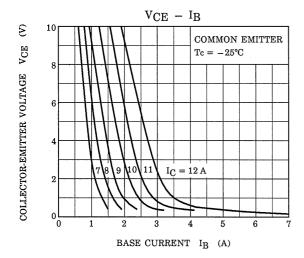
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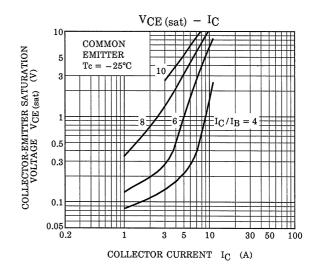


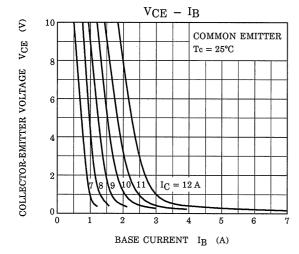


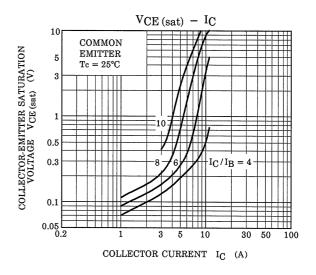


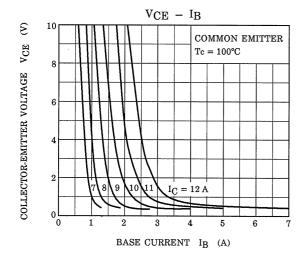
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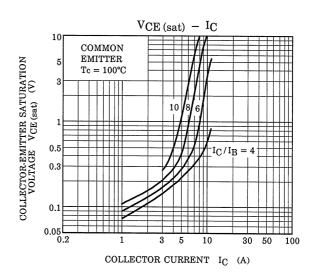




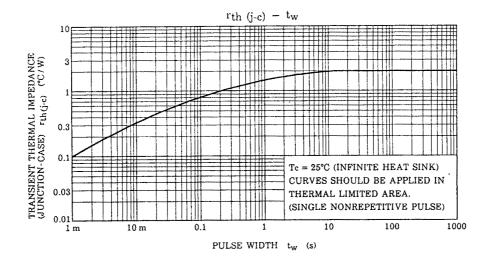


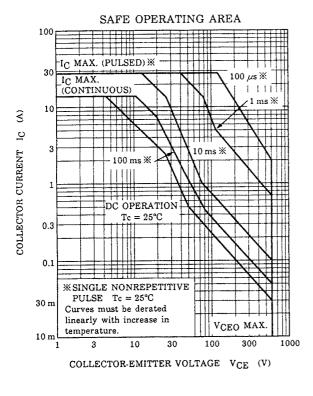


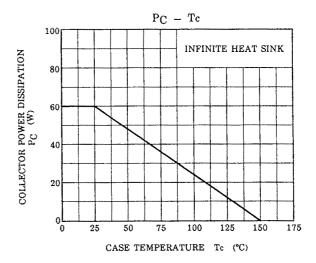




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