### TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

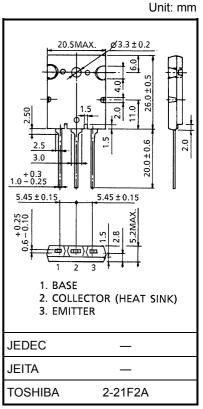
# 2SC5590

HORIZONTAL DEFLECTION OUTPUT FOR SUPER HIGH RESOLUTION DISPLAY, COLOR TV FOR MULTI-MEDIA & HDTV HIGH SPEED SWITCHING APPLICATIONS

 $\begin{array}{ll} \bullet & \mbox{High Voltage} & : \mbox{V}_{CBO} = 1700 \ \mbox{V} \\ \bullet & \mbox{Low Saturation Voltage} & : \mbox{V}_{CE} \ \mbox{(sat)} = 3 \ \mbox{V} \ \mbox{(Max.)} \\ \bullet & \mbox{High Speed} & : \mbox{t}_{f} \ \mbox{(2)} = 0.1 \mu \mbox{s} \ \mbox{(Typ.)} \\ \end{array}$ 

## **MAXIMUM RATINGS (Tc = 25°C)**

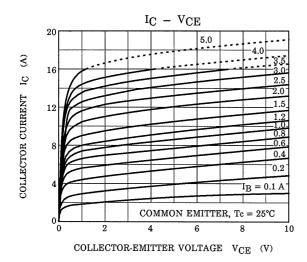
CHARACTERISTIC		SYMBOL	RATING	UNIT	
Collector-Base Voltage		V <sub>CBO</sub>	1700	V	
Collector-Emitter Voltage		V <sub>CEO</sub>	800	V	
Emitter-Base Voltage		V <sub>EBO</sub>	5	V	
Collector Current	DC	Ic	16	A	
	Pulse	I <sub>CP</sub>	32		
Base Current		Ι <sub>Β</sub>	8	Α	
Collector Power Dissipation		PC	200	W	
Junction Temperature		Tj	150	°C	
Storage Temperature Range		T <sub>stg</sub>	-55~150	°C	

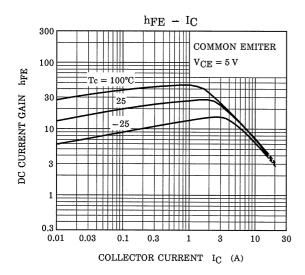


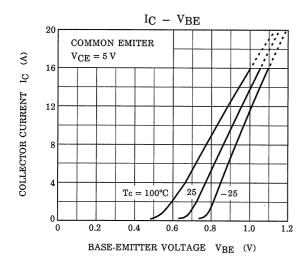
Weight: 9.75 g (typ.)

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

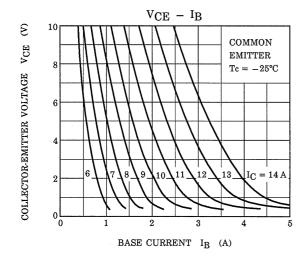
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Collector Cut-off Current		I <sub>CBO</sub>	V <sub>CB</sub> = 1700 V, I <sub>E</sub> = 0	_	_	1	mA
Emitter Cut-off Current		I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0	_	_	100	μΑ
Collector-Emitter Breakdown Voltage		V (BR) CEO	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	800	_	_	V
DC Current Gain		h <sub>FE (1)</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 2 A	22	_	45	_
		h <sub>FE (2)</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 9 A	6.5	_	12	
		h <sub>FE (3)</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 12 A	4.8	_	8	
Collector-Emitter Saturation Voltage		V <sub>CE (sat)</sub>	I <sub>C</sub> = 12 A, I <sub>B</sub> = 3 A	_	_	3	V
Base-Emitter Saturation Voltage		V <sub>BE (sat)</sub>	I <sub>C</sub> = 12 A, I <sub>B</sub> = 3 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	_	240	_	pF
Switching Time	Storage Time	t <sub>stg (1)</sub>	I <sub>CP</sub> = 9 A, I <sub>B1</sub> (end) = 1.1 A	_	3.5	4	μs
	Fall Time	t <sub>f (1)</sub>	f <sub>H</sub> = 32 kHz	_	0.25	0.35	
	Storage Time	t <sub>stg (2)</sub>	I <sub>CP</sub> = 6.5 A, I <sub>B1</sub> (end) = 1A f <sub>H</sub> = 100 kHz	_	1.8	2	- µs
	Fall Time	t <sub>f (2)</sub>		_	0.1	0.15	

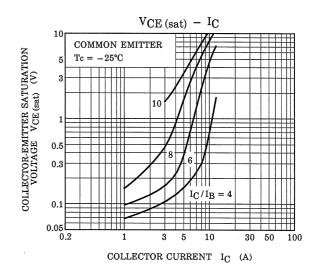


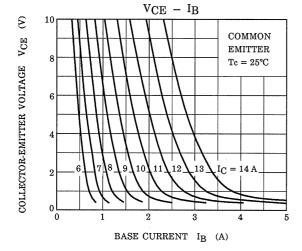


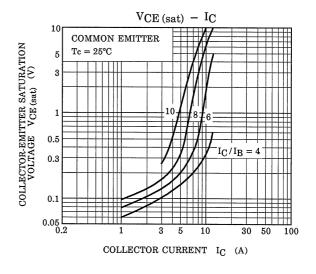


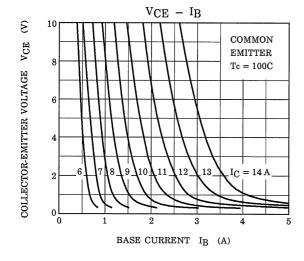
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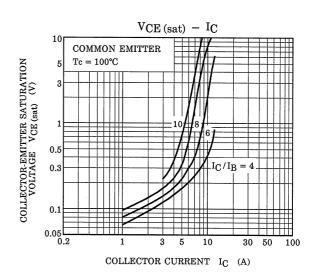




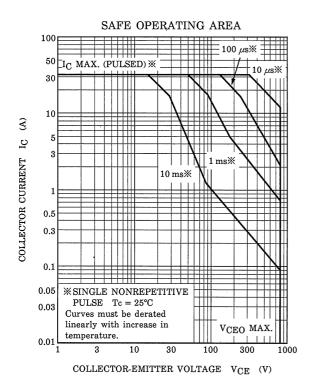


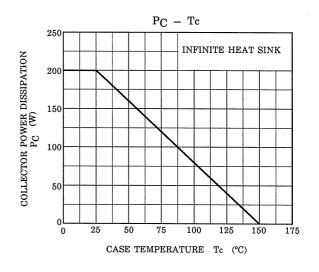






3





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