

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED MESA TYPE

## 2SC5612

HORIZONTAL DEFLECTION OUTPUT FOR COLOR TV

Unit: mm

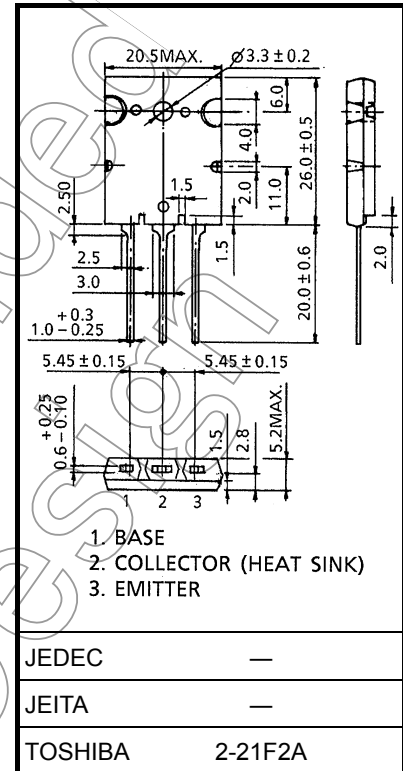
- High Voltage :  $V_{CBO} = 2000\text{ V}$
- Low Saturation Voltage :  $V_{CE(sat)} = 3\text{ V (Max.)}$
- High Speed :  $t_f = 0.15\mu\text{s (Typ.)}$

ABSOLUTE MAXIMUM RATINGS ( $T_c = 25^\circ\text{C}$ )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	2000	V
Collector-Emitter Voltage		$V_{CEO}$	900	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current	DC	$I_C$	22	A
	Pulse	$I_{CP}$	44	A
Base Current		$I_B$	11	A
Collector Power Dissipation		$P_C$	220	W
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ\text{C}$

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



JEDEC

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JEITA

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TOSHIBA

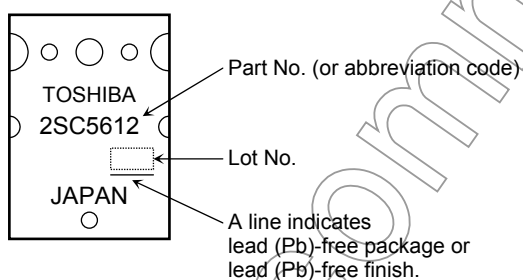
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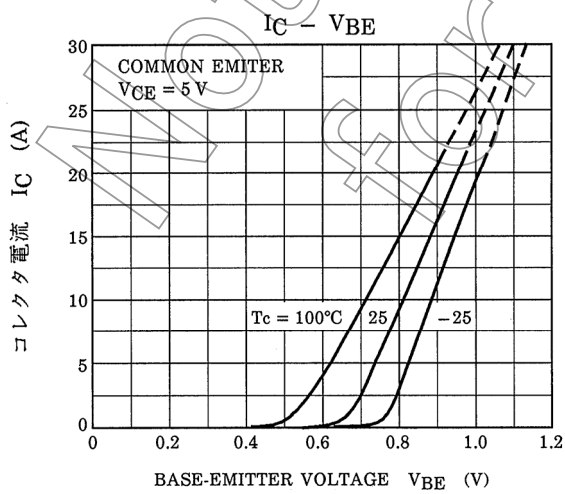
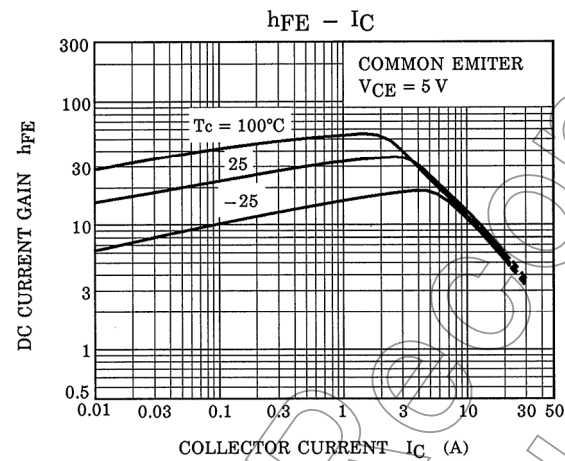
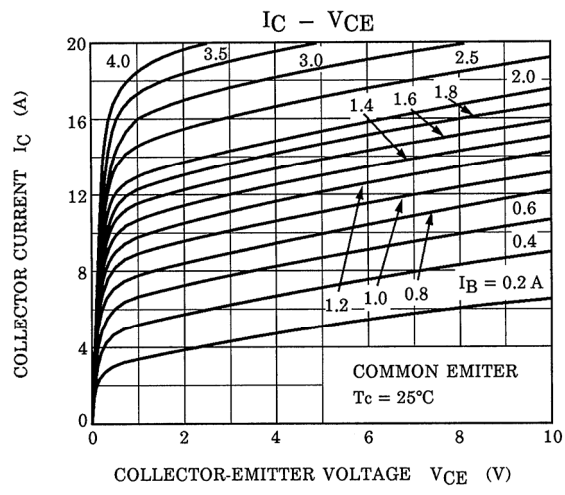
Weight: 9.75 g (typ.)

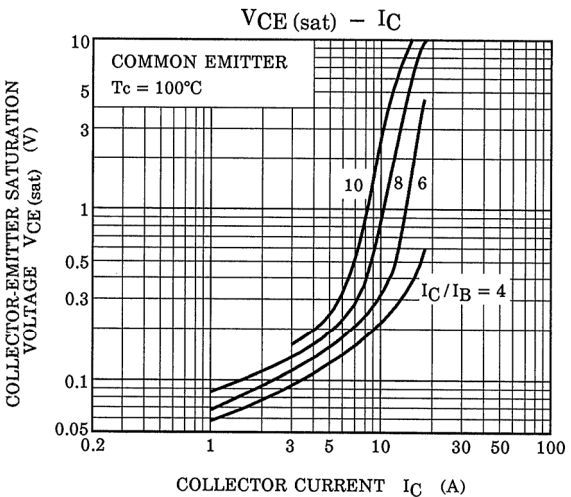
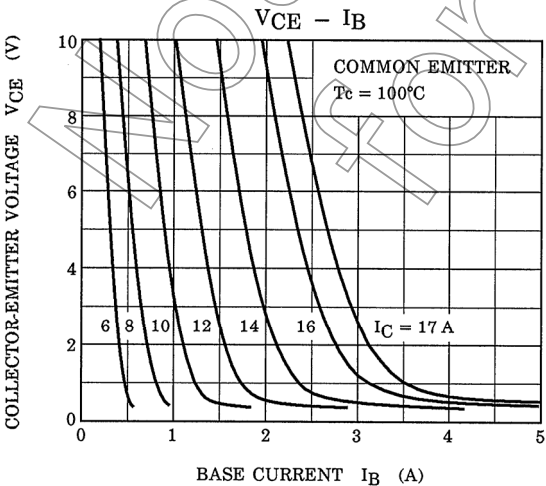
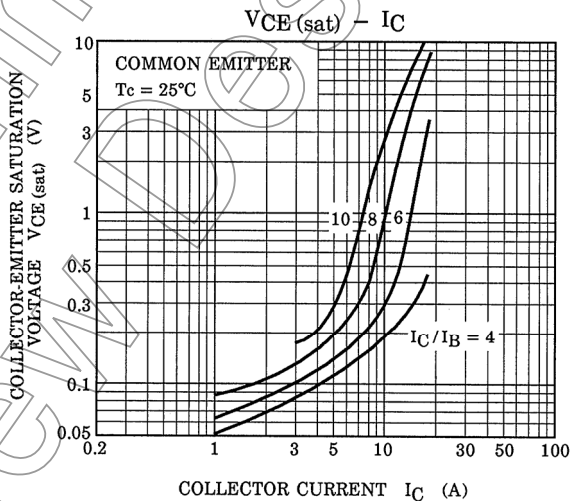
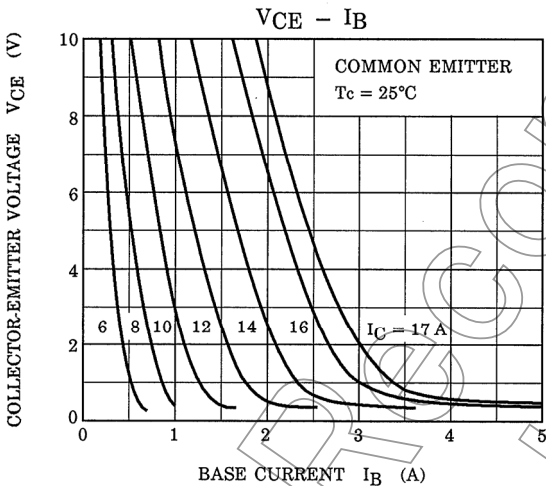
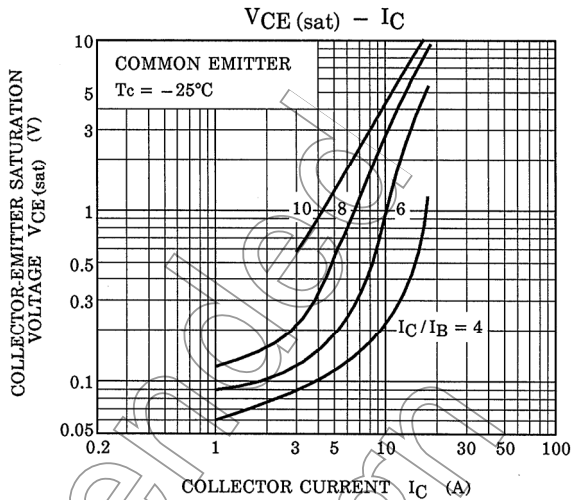
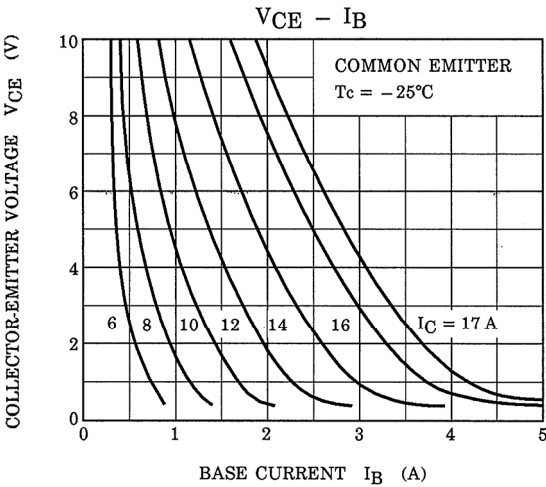
## ELECTRICAL CHARACTERISTICS (T<sub>c</sub> = 25°C)

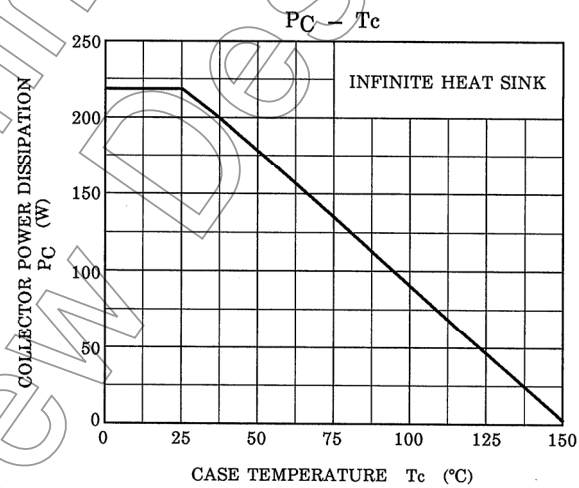
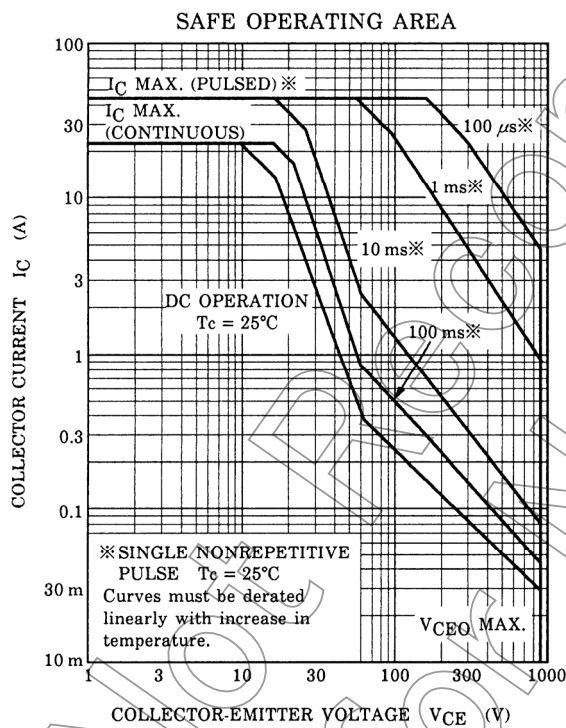
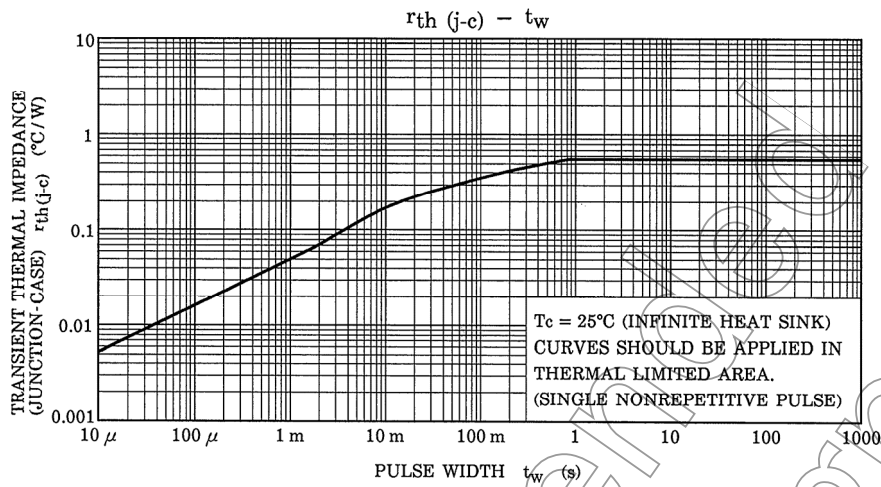
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Collector Cut-off Current		I <sub>CBO</sub>	V <sub>CB</sub> = 2000 V, I <sub>E</sub> = 0	—	—	1	mA
Emitter Cut-off Current		I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0	—	—	100	μA
Collector-Emitter Breakdown Voltage		V <sub>(BR)</sub> CEO	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	900	—	—	V
DC Current Gain		h <sub>FE</sub> (1)	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 2 A	15	—	50	—
		h <sub>FE</sub> (2)	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 9 A	9.5	—	18.5	
		h <sub>FE</sub> (3)	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 17 A	4.8	—	9.0	
Collector-Emitter Saturation Voltage		V <sub>CE</sub> (sat)	I <sub>C</sub> = 17 A, I <sub>B</sub> = 4.25 A	—	—	3	V
Base-Emitter Saturation Voltage		V <sub>BE</sub> (sat)	I <sub>C</sub> = 17 A, I <sub>B</sub> = 4.25 A	—	—	1.3	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	—	470	—	pF
Switching Time	Storage Time	t <sub>stg</sub>	I <sub>CP</sub> = 8 A, I <sub>B1</sub> (end) = 1 A f <sub>H</sub> = 32 kHz	—	4.0	5.0	μs
	Fall Time	t <sub>f</sub>		—	0.15	0.35	

## MARKING









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