TOSHIBA Transistor Silicon NPN Triple Diffused Type (PCT Process)

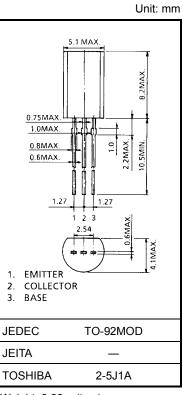
# 2SC2229

Black and White TV Video Output Applications High-Voltage Switching Applications Driver Stage Audio Amplifier Applications

- High breakdown voltage: VCEO = 150 V (min)
- Low output capacitance:  $C_{ob} = 5.0 \text{ pF} (max)$
- High transition frequency:  $f_T = 120 \text{ MHz}$  (typ.) •

#### Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	200	V
Collector-emitter voltage	V <sub>CEO</sub>	150	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current	Ι <sub>C</sub>	50	mA
Base current	Ι <sub>Β</sub>	20	mA
Collector power dissipation	P <sub>C</sub>	800	mW
Junction temperature	Тj	150	°C
Storage temperature range	T <sub>stg</sub>	−55 to 150	°C



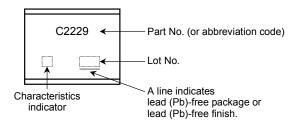
#### **Electrical Characteristics (Ta = 25°C)**

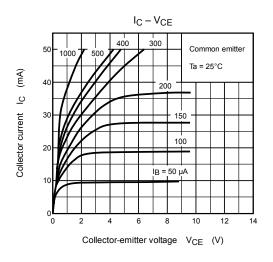
Weight: 0.36 g (typ.)

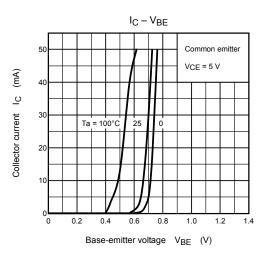
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 200 V, I <sub>E</sub> = 0	_	_	0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0		—	0.1	μA
DC current gain	h <sub>FE</sub> (Note)	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 10 mA	70	_	240	
Collector-emitter saturation voltage	V <sub>CE (sat)</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 1 mA	_	_	0.5	V
Base-emitter saturation voltage	V <sub>BE (sat)</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 1 mA	_	—	1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 30 V, I <sub>C</sub> = 10 mA	—	120	—	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz		3.5	5	pF

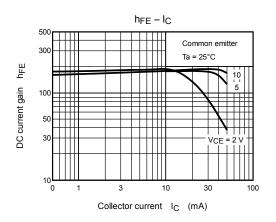
Note: hFE classification O: 70 to 140, Y: 120 to 240

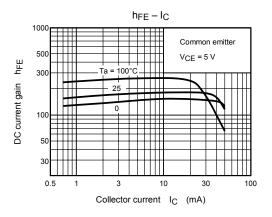
#### Marking

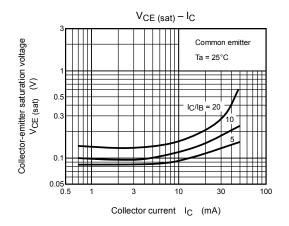


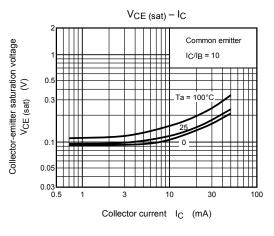


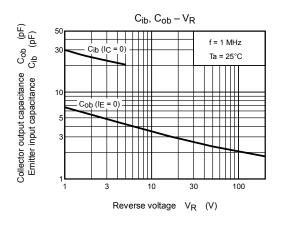


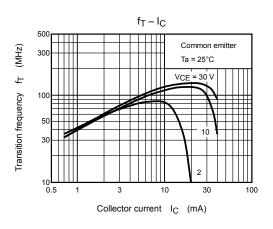


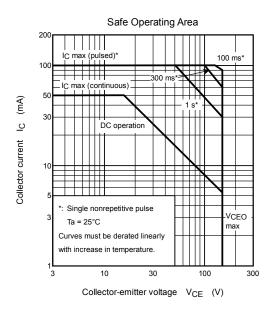


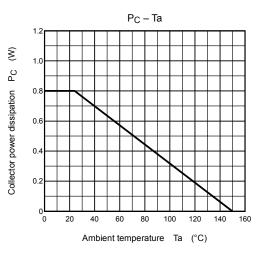












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