Unit: mm

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

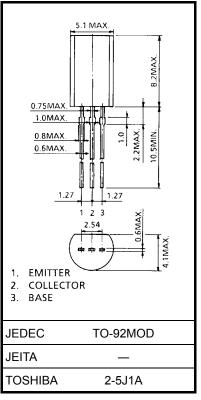
# 2SC2383

# Color TV Vertical Deflection Output Applications Color TV Class-B Sound Output Applications

- High breakdown voltage: VCEO = 160 V
- Large continuous collector current capability
- Recommended for vertical deflection output & sound output applications for line-operated TVs.
- Complementary to 2SA1013

### **Absolute Maximum Ratings (Ta = 25°C)**

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	160	V
Collector-emitter voltage	V <sub>CEO</sub>	160	V
Emitter-base voltage	V <sub>EBO</sub>	6	٧
Collector current	IC	1	Α
Base current	ΙΒ	0.5	Α
Collector power dissipation	PC	900	mW
Junction temperature	Tj	150	°C
Storage temperature range	T <sub>stg</sub>	-55 to 150	°C



Weight: 0.36 g (typ.)

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).

2SC2383

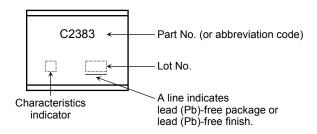


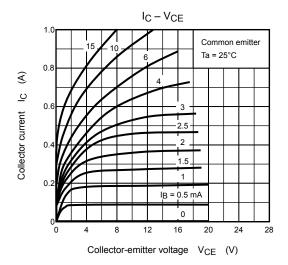
# **Electrical Characteristics (Ta = 25°C)**

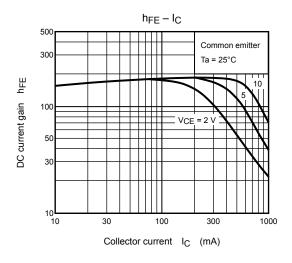
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 150 V, I <sub>E</sub> = 0	_	_	1.0	μΑ
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 6 V, I <sub>C</sub> = 0	_	_	1.0	μA
Collector-emitter breakdown voltage	V (BR) CEO	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	160	_	_	٧
DC current gain	h <sub>FE</sub> (Note)	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 200 mA	60	_	320	
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = 500 mA, I <sub>B</sub> = 50 mA	_	_	1.5	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 5 mA	0.45	_	0.75	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 5 V, I <sub>C</sub> = 200 mA	20	100	_	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz	_	_	20	pF

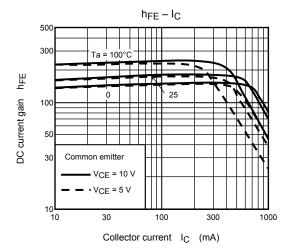
Note: hFE classification R: 60 to 120, O: 100 to 200, Y: 160 to 320

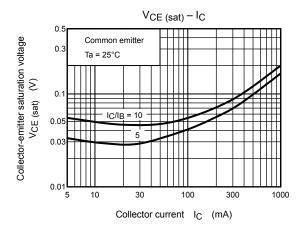
## Marking

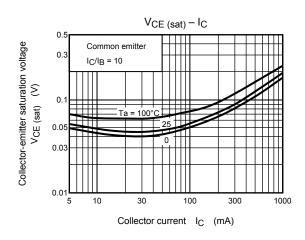


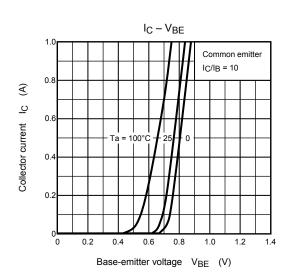


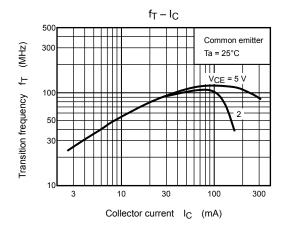


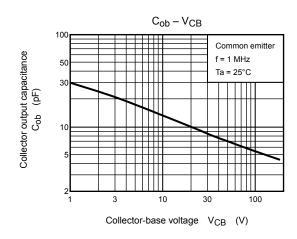


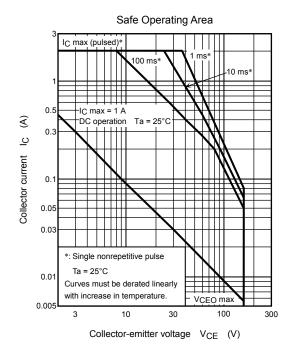












#### **RESTRICTIONS ON PRODUCT USE**

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- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
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