

TOSHIBA Transistor Silicon NPN Triple Diffused Type (PCT process)

2SC3333

High Voltage Switching Applications
Color TV Chroma Output Applications

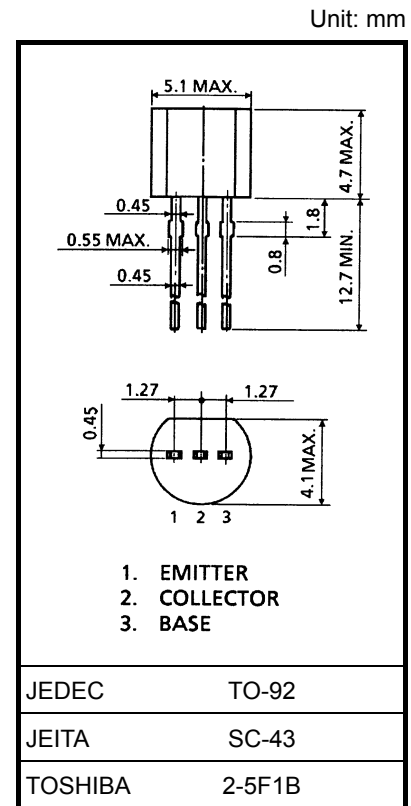
- High voltage: $V_{CE0} = 250\text{ V}$
- Low C_{re} : 1.8 pF (max)
- Complementary to 2SA1320

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	250	V
Collector-emitter voltage		V_{CEO}	250	V
Emitter-base voltage		V_{EBO}	5	V
Collector current	DC	I_C	50	mA
	Pulsed	I_{CP}	100	
Base current		I_B	20	mA
Collector power dissipation		P_C	0.6	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.

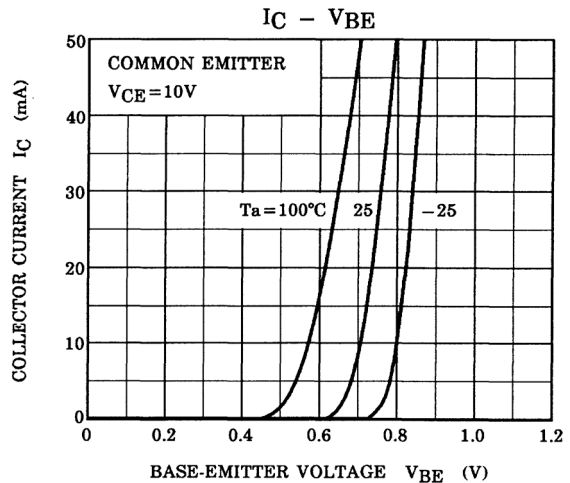
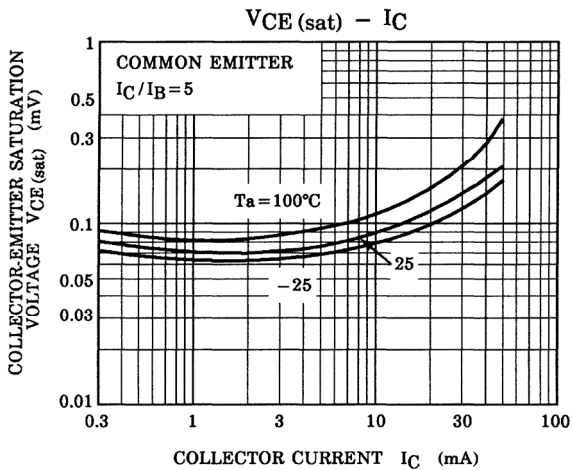
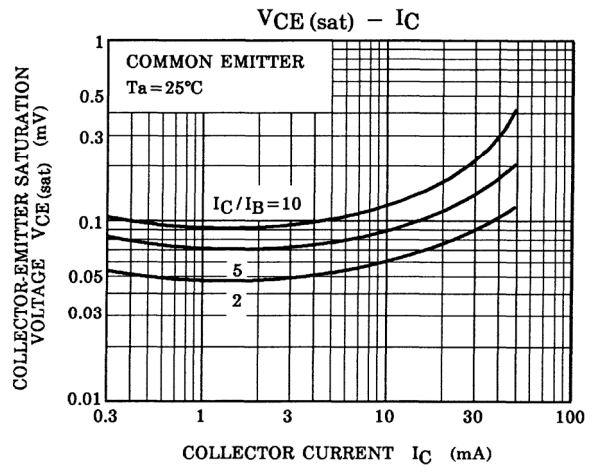
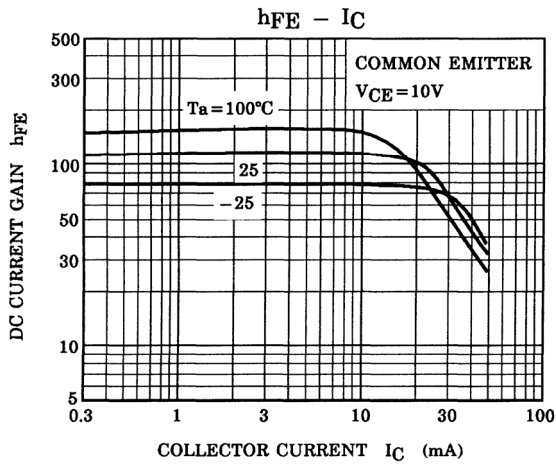
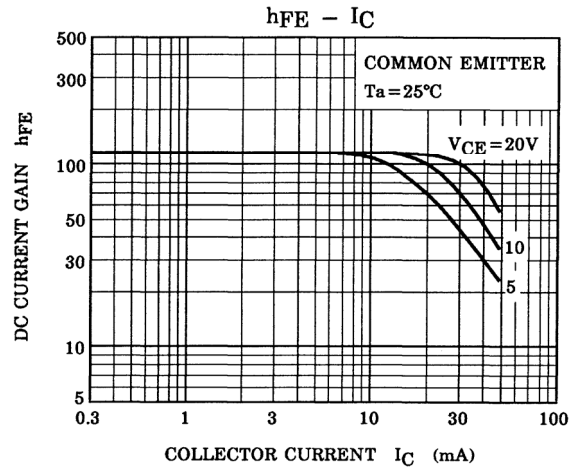
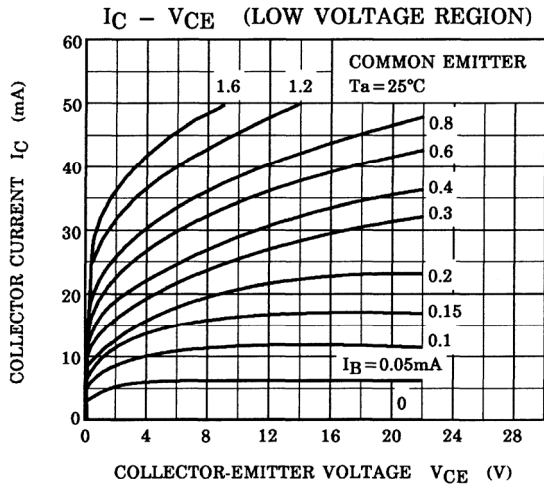
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

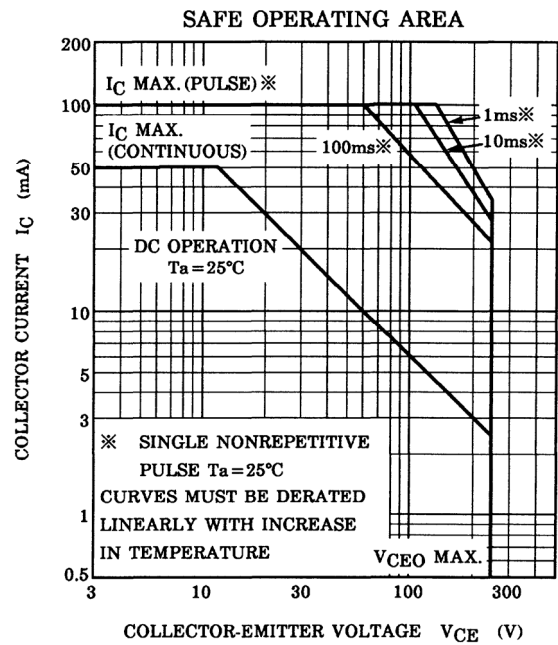
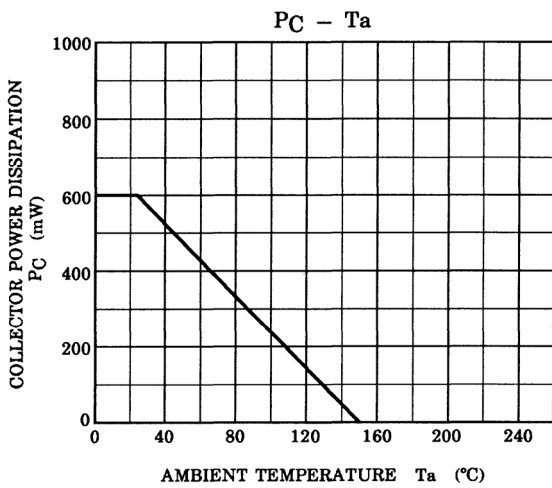
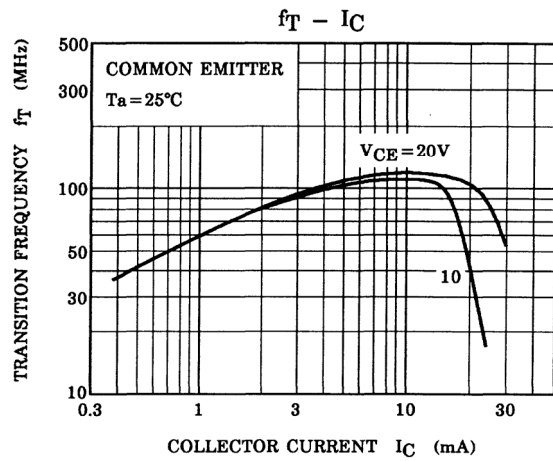
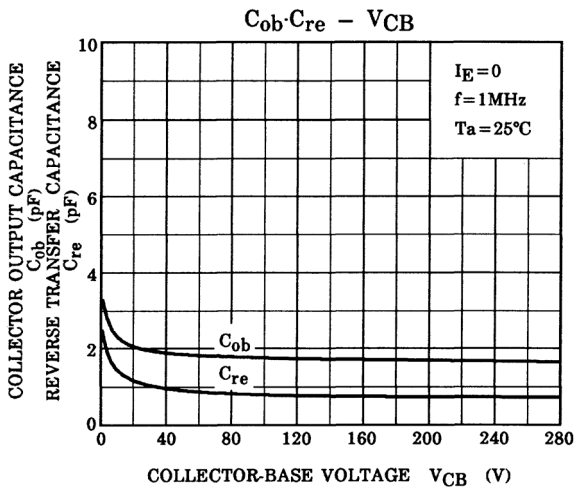


Weight: 0.21 g (typ.)

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 200\text{ V}, I_E = 0$	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	0.1	μA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, I_B = 0$	250	—	—	V
DC current gain	h_{FE}	$V_{CE} = 20\text{ V}, I_C = 25\text{ mA}$	50	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{ mA}, I_B = 1\text{ mA}$	—	—	1.5	V
Base-emitter voltage	V_{BE}	$V_{CE} = 20\text{ V}, I_C = 25\text{ mA}$	—	0.75	—	V
Transition frequency	f_T	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$	60	100	—	MHz
Reverse transfer capacitance	C_{re}	$V_{CB} = 30\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	—	1.8	pF





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20070701-EN GENERAL

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