

TOSHIBA Transistor Silicon PNP Triple Diffused Type (PCT process)

# 2SA1320

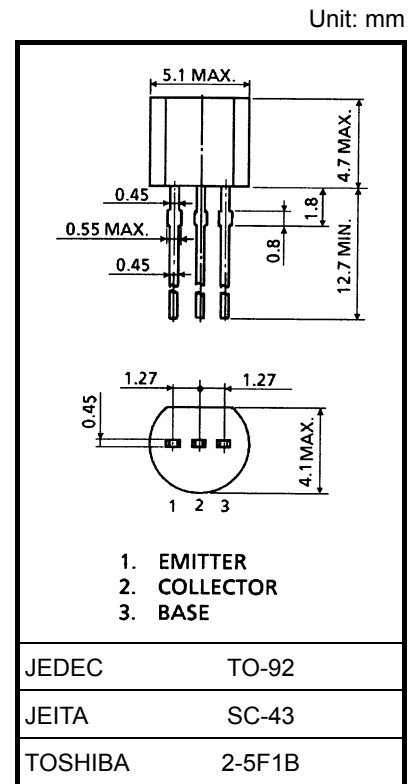
High Voltage Switching Applications  
Color TV Chroma Output Applications

- High voltage:  $V_{CEO} = -250\text{ V}$
- Low  $C_{re}$ : 1.8 pF (max)
- Complementary to 2SC3333

### 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	$^\circ\text{C}$

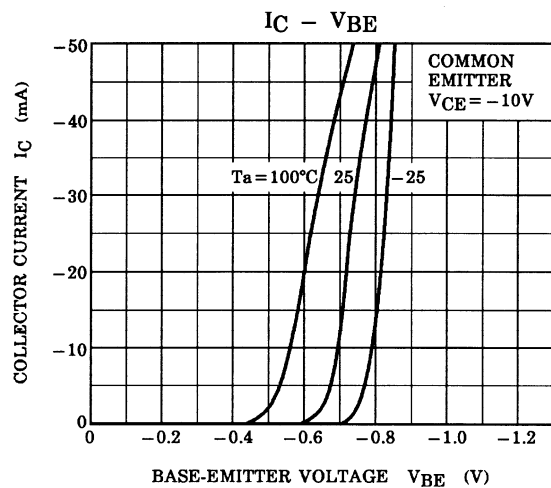
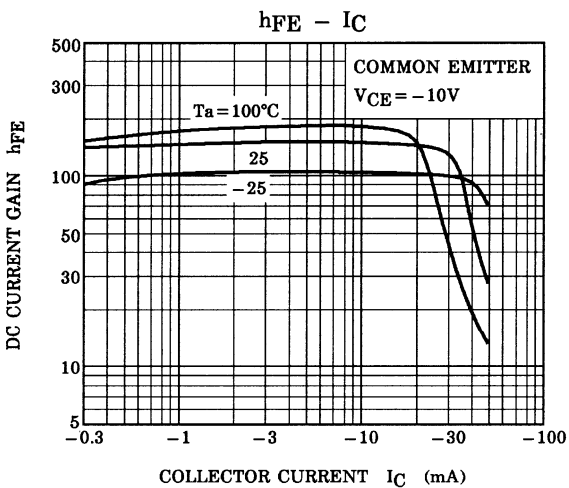
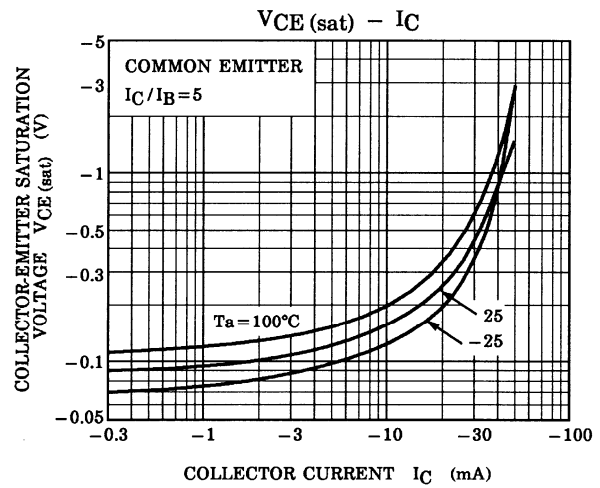
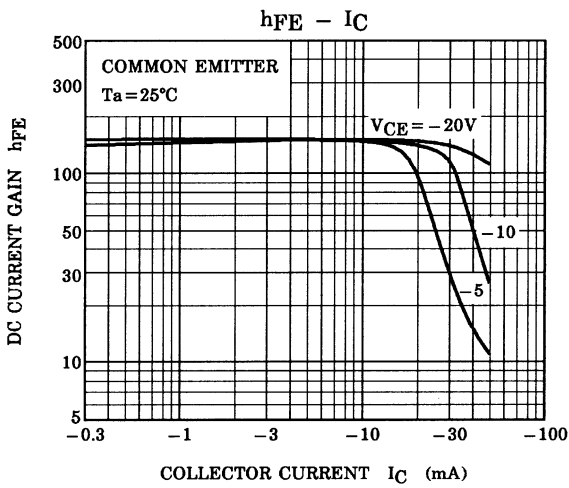
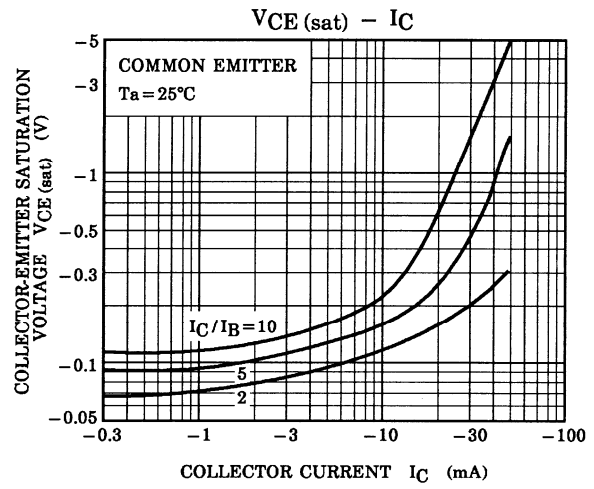
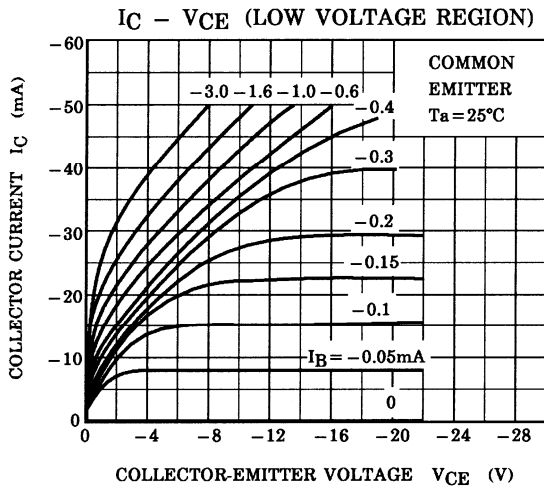
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

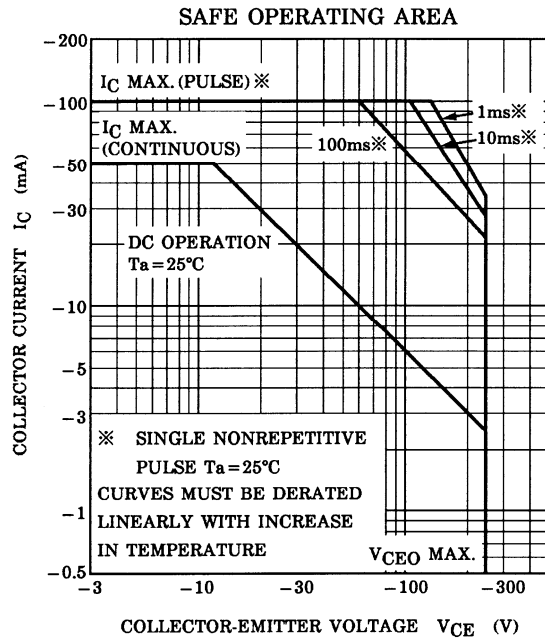
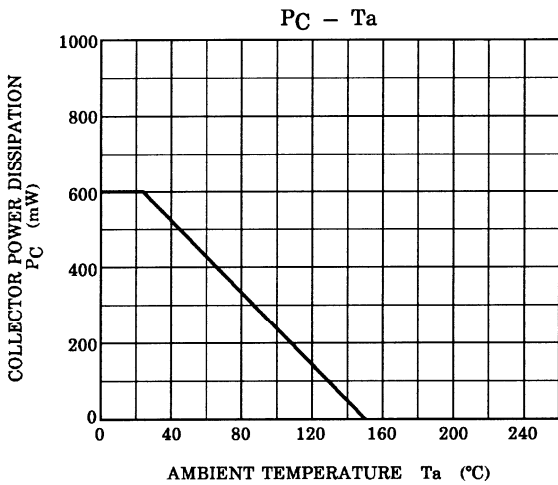
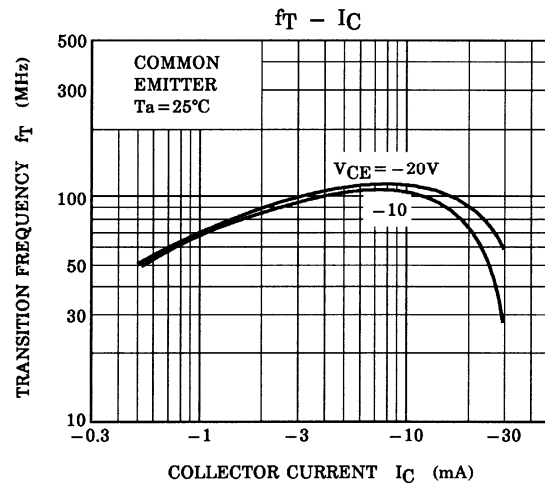
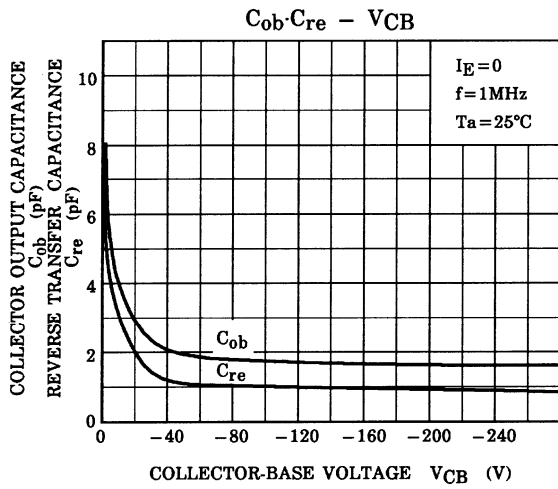


Weight: 0.21 g (typ.)

### 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	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-0.1	$\mu\text{A}$
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	80	—	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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