

TOSHIBA Transistor Silicon NPN Triple Diffused Type (PCT process)

## 2SC5173

High-Voltage Switching and Amplifier Applications

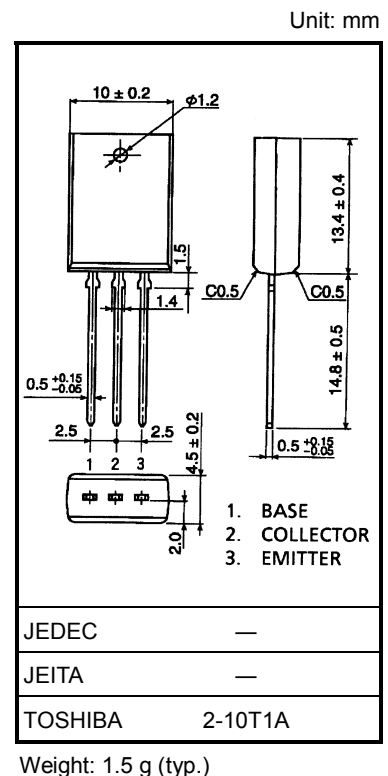
Color TV Horizontal Driver Applications

Color TV Chroma Output Applications

- High breakdown voltage:  $V_{CEO} = 300\text{ V}$
- Small collector output capacitance:  $C_{ob} = 3.0\text{ pF (typ.)}$
- Collector metal (fin) is fully covered with mold resin.

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

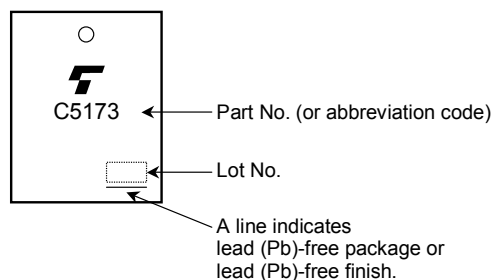
Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	300	V
Collector-emitter voltage	$V_{CEO}$	300	V
Emitter-base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	100	mA
Base current	$I_B$	50	mA
Collector power dissipation	$P_C$	1.8	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to 150	$^\circ\text{C}$

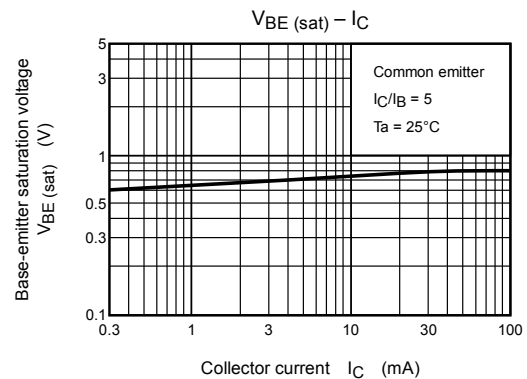
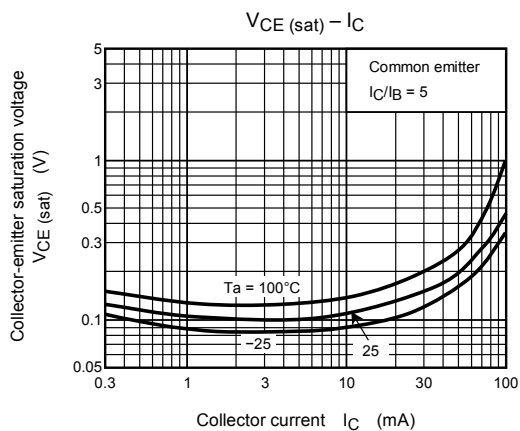
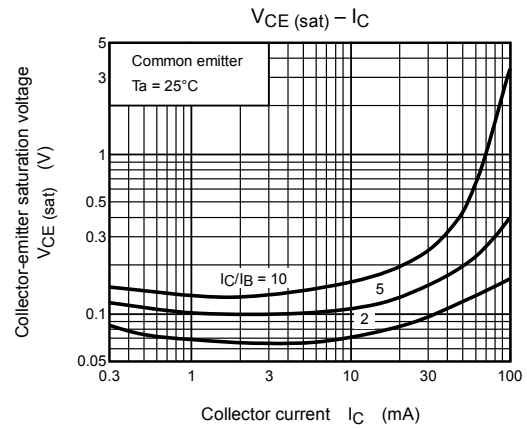
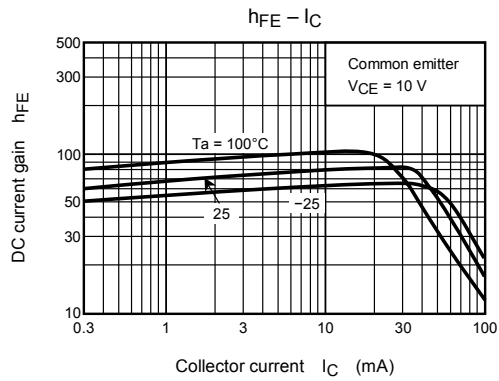
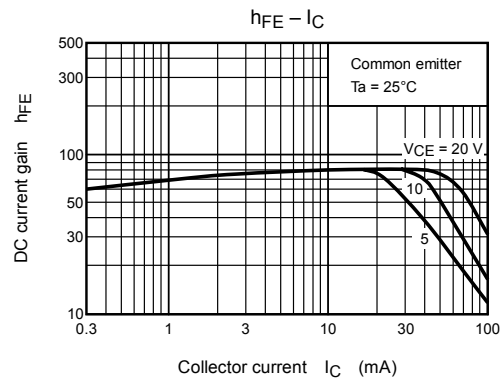
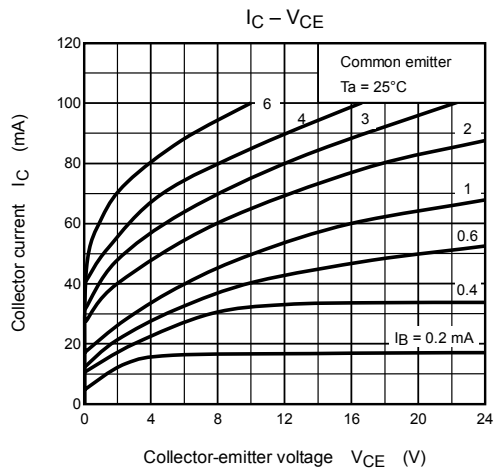


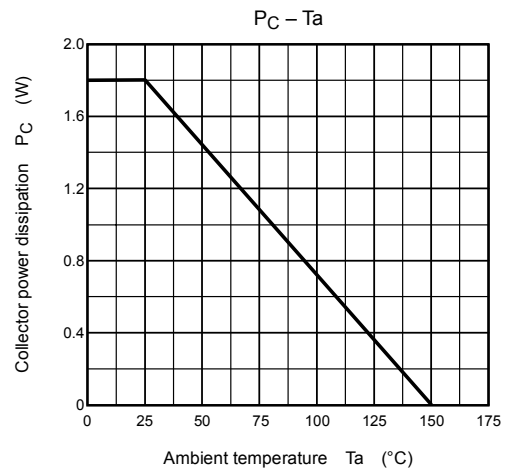
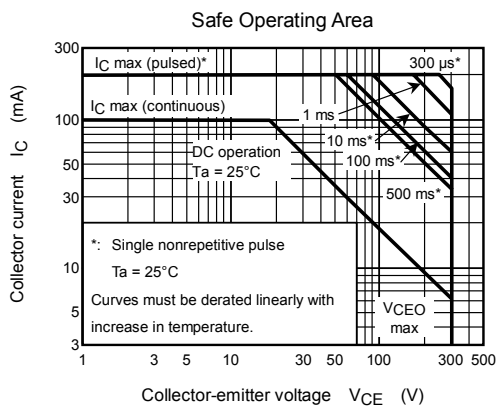
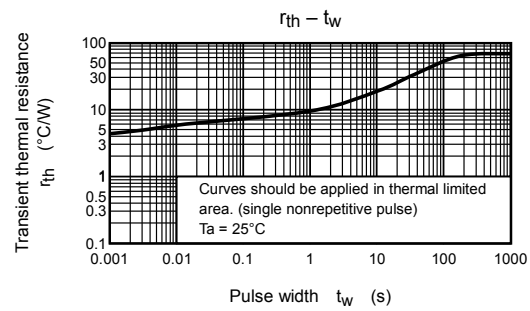
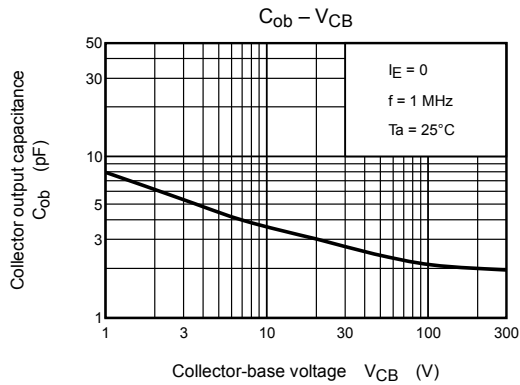
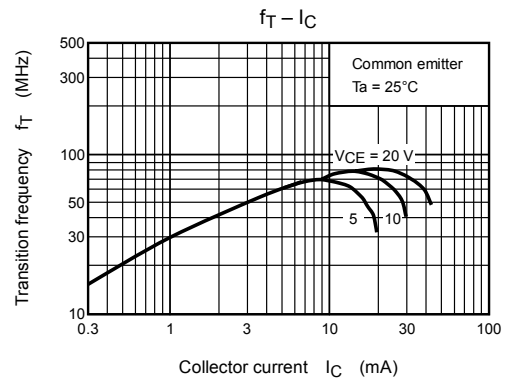
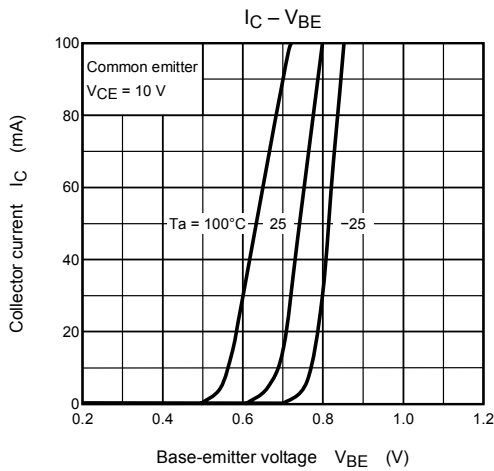
### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ unless otherwise noted.)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 240\text{ V}, I_E = 0$	—	—	1.0	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	1.0	$\mu\text{A}$
DC current gain	$h_{FE} (1)$	$V_{CE} = 10\text{ V}, I_C = 4\text{ mA}$	20	—	—	
	$h_{FE} (2)$	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$	30	—	200	
Collector-emitter saturation voltage	$V_{CE (sat)}$	$I_C = 10\text{ mA}, I_B = 1\text{ mA}$	—	—	1.0	V
Base-emitter saturation voltage	$V_{BE (sat)}$	$I_C = 10\text{ mA}, I_B = 1\text{ mA}$	—	—	1.0	V
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$	50	70	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 20\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	3.0	—	pF

### Marking







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