

TOSHIBA Transistor Silicon NPN Epitaxial Type

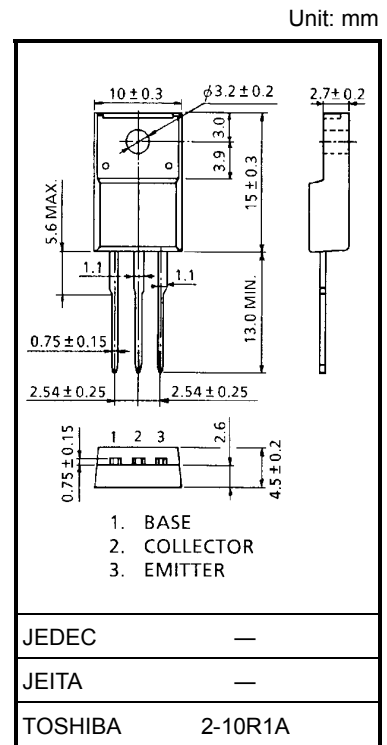
2SC5171

Power Amplifier Applications
 Driver Stage Amplifier Applications

- High transition frequency: $f_T = 200 \text{ MHz (typ.)}$
- Complementary to 2SA1930

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	180	V
Collector-emitter voltage	V_{CE0}	180	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	2	A
Base current	I_B	1	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	2.0	W
	$T_c = 25^\circ\text{C}$	20	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

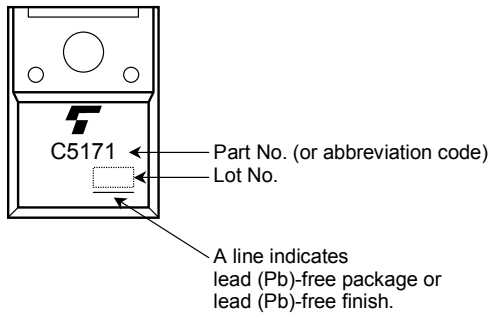


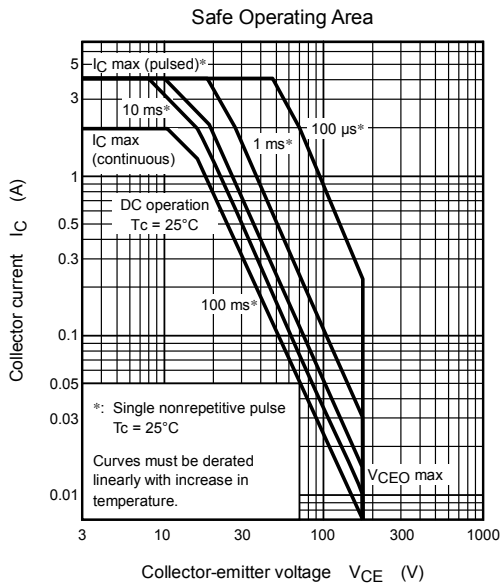
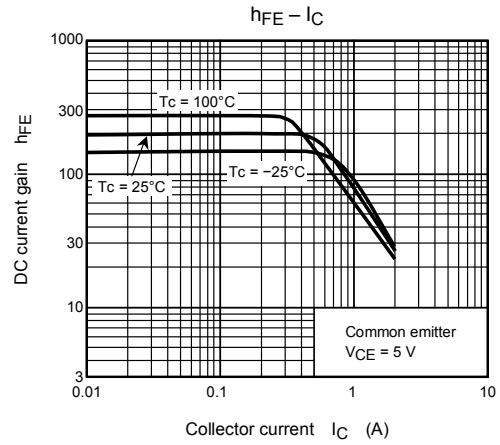
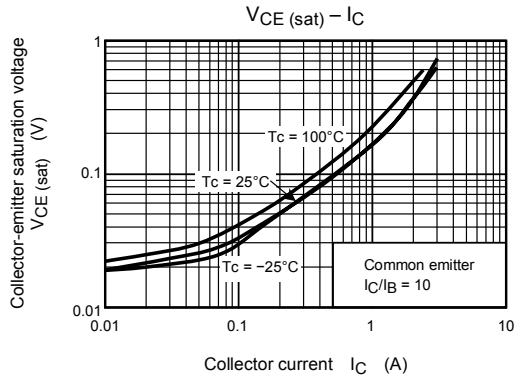
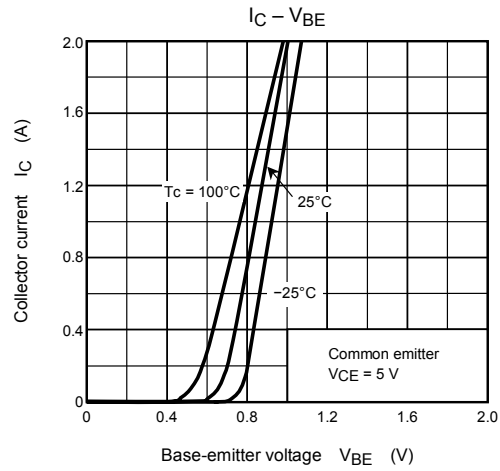
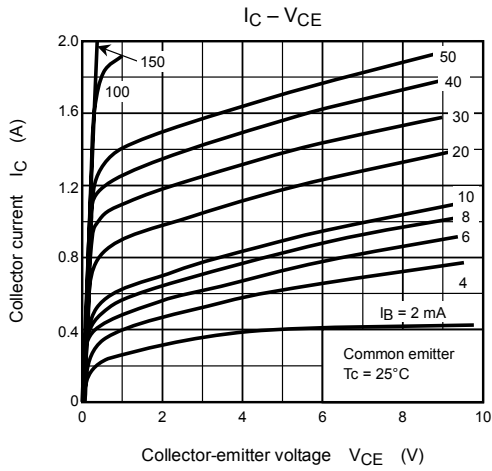
Weight: 1.7 g (typ.)

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

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CB0}	$V_{CB} = 180 \text{ V}, I_E = 0$	—	—	5.0	μA
Emitter cut-off current	I_{EB0}	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	5.0	μA
Collector-emitter breakdown voltage	$V_{(BR)CE0}$	$I_C = 10 \text{ mA}, I_B = 0$	180	—	—	V
DC current gain	$h_{FE(1)}$	$V_{CE} = 5 \text{ V}, I_C = 0.1 \text{ A}$	100	—	320	
	$h_{FE(2)}$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	50	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1 \text{ A}, I_B = 0.1 \text{ A}$	—	0.16	1.0	V
Base-emitter voltage	V_{BE}	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ A}$	—	0.68	1.5	V
Transition frequency	f_T	$V_{CE} = 5 \text{ V}, I_C = 0.3 \text{ A}$	—	200	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	16	—	pF

Marking





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