

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

2SC3670

Strobe Flash Applications

Medium Power Amplifier Applications

- High DC current gain and excellent hFE linearity
 : hFE (1) = 140 to 600 ($V_{CE} = 1\text{ V}$, $I_C = 0.5\text{ A}$)
 : hFE (2) = 70 (min), 200 (typ.), ($V_{CE} = 1\text{ V}$, $I_C = 2\text{ A}$)
- Low saturation voltage: $V_{CE(sat)} = 0.5\text{ V}$ (max)
 ($I_C = 2\text{ A}$, $I_B = 50\text{ mA}$)

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CES}	30	V
	V_{CEO}	10	
Emitter-base voltage	V_{EBO}	6	V
Collector current	DC	I_C	A
	Pulsed (Note 1)	I_{CP}	
Base current	I_B	0.5	A
Collector power dissipation	P_C	1000	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

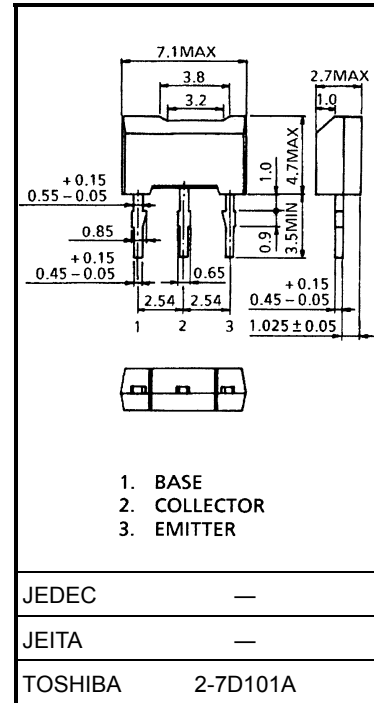
Note 1: Pulse test: Pulse width = 10 ms (max), duty cycle = 30% (max)

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

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 30\text{ V}$, $I_E = 0$	—	—	100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6\text{ V}$, $I_C = 0$	—	—	100	nA
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 10\text{ mA}$, $I_B = 0$	10	—	—	V
Emitter-base breakdown voltage	V_{EBO}	$I_C = 1\text{ mA}$, $I_C = 0$	6	—	—	V
DC current gain	$h_{FE(1)}$ (Note 2)	$V_{CE} = 1\text{ V}$, $I_C = 0.5\text{ A}$	140	—	600	
	$h_{FE(2)}$	$V_{CE} = 1\text{ V}$, $I_C = 2\text{ A}$	70	200	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2\text{ A}$, $I_B = 50\text{ mA}$	—	0.2	0.5	V
Base-emitter voltage	V_{BE}	$V_{CE} = 1\text{ V}$, $I_C = 2\text{ A}$	—	0.86	1.5	V
Transition frequency	f_T	$V_{CE} = 1\text{ V}$, $I_C = 0.5\text{ A}$	—	150	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$	—	27	—	pF

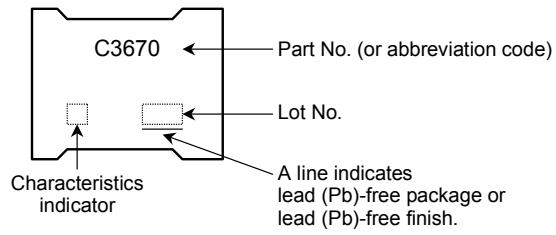
Note 2: $h_{FE(1)}$ classification A: 140 to 240, B: 200 to 330, C: 300 to 450, D: 420 to 600

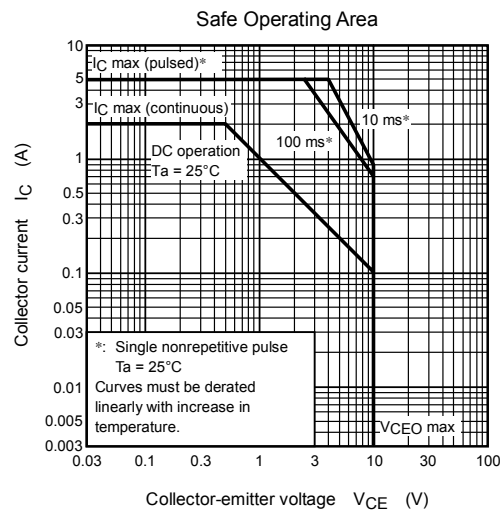
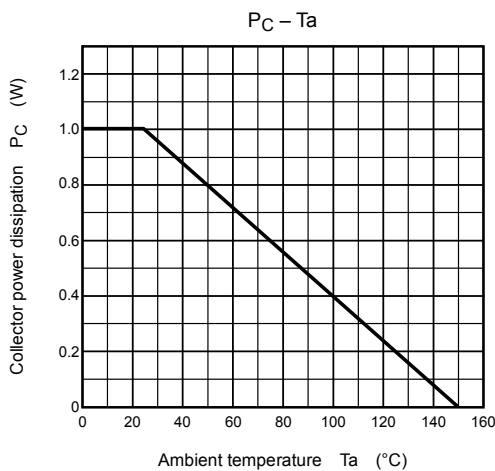
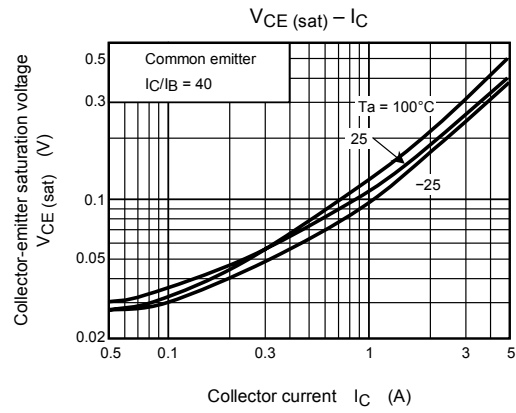
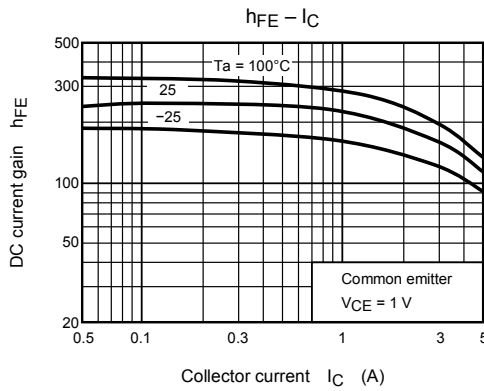
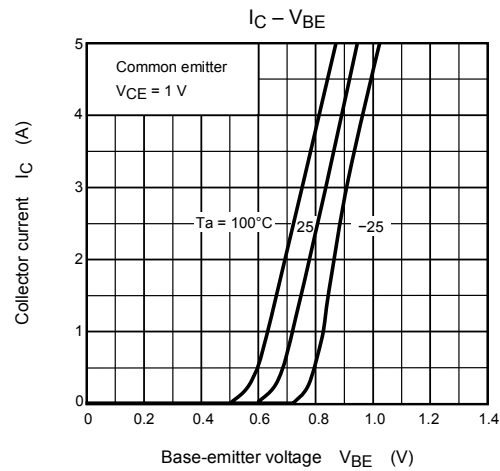
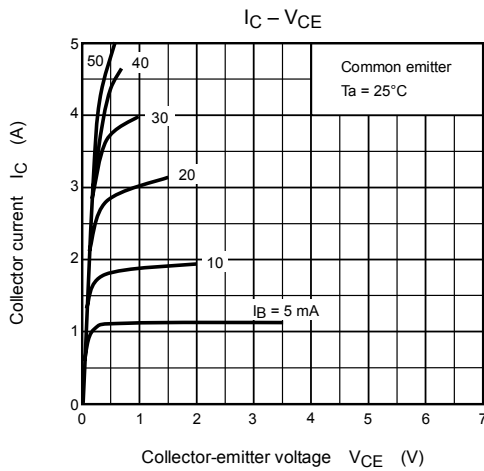
Unit: mm



Weight: 0.2 g (typ.)

Marking





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