

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

2SC3420

Strobe Flash Applications

Audio Power Amplifier Applications

Unit: mm

- High DC current gain: $h_{FE} = 140$ to 600 ($V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$)
: $h_{FE} = 70$ (min) ($V_{CE} = 2\text{ V}$, $I_C = 4\text{ A}$)
- Low saturation voltage: $V_{CE(sat)} = 1.0\text{ V}$ (max) ($I_C = 4\text{ A}$, $I_B = 0.1\text{ A}$)
- High collector power dissipation: $P_C = 10\text{ W}$ ($T_c = 25^\circ\text{C}$),
 $P_C = 1.5\text{ W}$ ($T_a = 25^\circ\text{C}$)

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

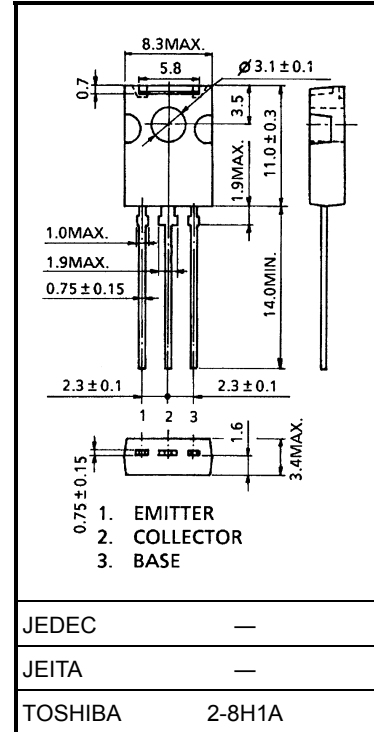
Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CES}	40	V
	V_{CEO}	20	
Emitter-base voltage	V_{EBO}	8	V
Collector current	DC	I_C	A
	Pulse (Note 1)	I_{CP}	
Base current	I_B	1	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	W
	$T_c = 25^\circ\text{C}$	10	
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 ($T_c = 25^\circ\text{C}$)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 40\text{ V}$, $I_E = 0$	—	—	100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 8\text{ V}$, $I_C = 0$	—	—	100	nA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}$, $I_B = 0$	20	—	—	V
DC current gain	$h_{FE(1)}$ (Note 2)	$V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$	140	—	600	
	$h_{FE(2)}$	$V_{CE} = 2\text{ V}$, $I_C = 4\text{ A}$	70	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4\text{ A}$, $I_B = 0.1\text{ A}$	—	—	1.0	V
Base-emitter voltage	V_{BE}	$V_{CE} = 2\text{ V}$, $I_C = 4\text{ A}$	—	—	1.5	V
Transition frequency	f_T	$V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$	—	100	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$	—	40	—	pF

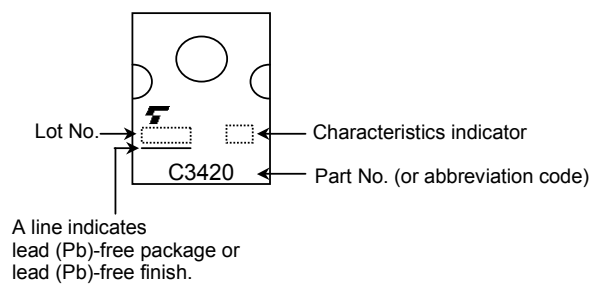
Note 2: $h_{FE(1)}$ classification Y: 140 to 240, GR: 200 to 400, BL: 300 to 600

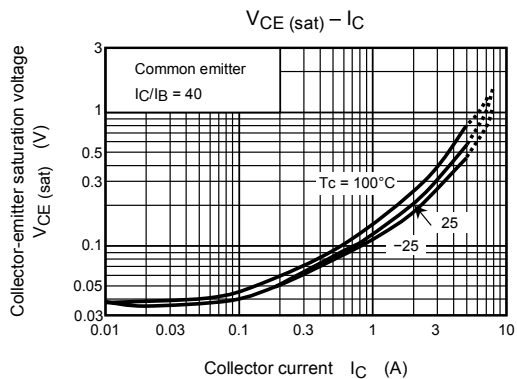
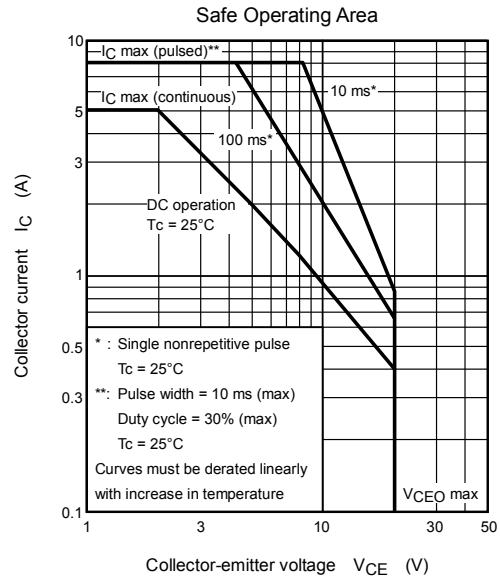
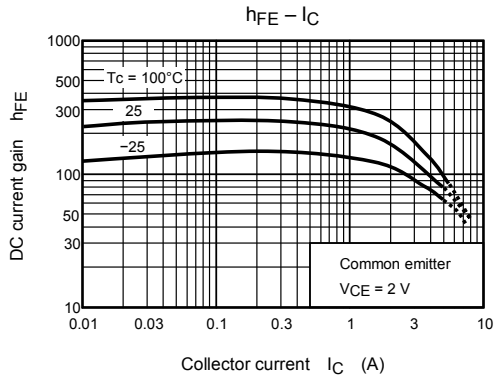
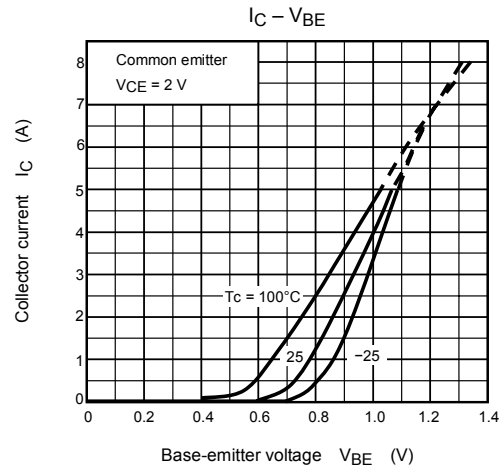
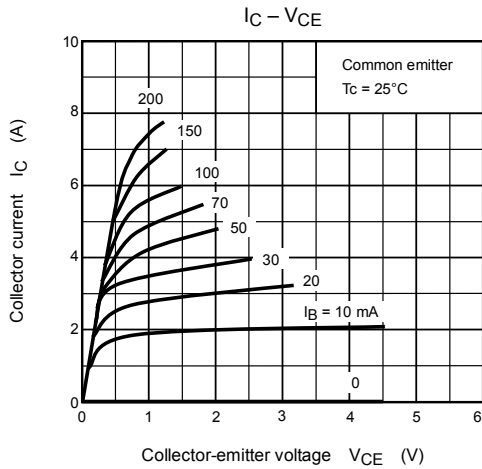


JEDEC —
JEITA —
TOSHIBA 2-8H1A

Weight: 0.82 g (typ.)

Marking





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