

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC4685

Strobe Flash Applications

Medium Power Amplifier Applications

Unit: mm

- High DC current gain: $h_{FE(1)} = 800$ to 3200 ($V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$)
: $h_{FE(2)} = 250$ ($V_{CE} = 2\text{ V}$, $I_C = 4\text{ A}$)
- Low saturation voltage: $V_{CE(sat)} = 0.5\text{ V (max)}$ ($I_C = 4\text{ A}$, $I_B = 40\text{ mA}$)
- High collector power dissipation: $P_C = 10\text{ W}$ ($T_c = 25^\circ\text{C}$),
 $P_C = 1.5\text{ W}$ ($T_a = 25^\circ\text{C}$)

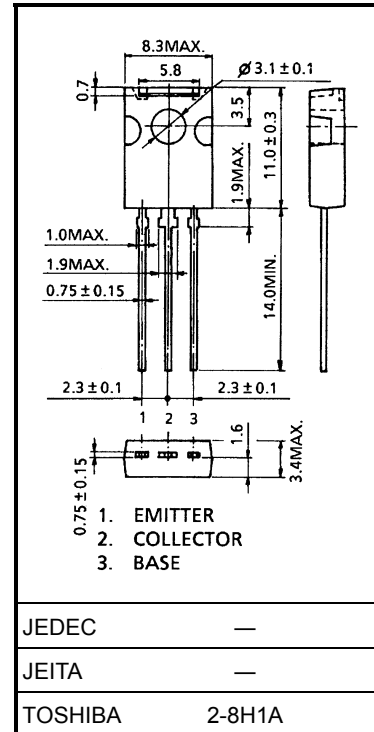
Maximum Ratings ($T_c = 25^\circ\text{C}$)

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	5	A
	Pulse (Note)	I_{CP}	8	
Base current		I_B	0.5	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	1.5	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: Pulse test: Pulse width = 10 ms (max), duty cycle = 30% (max)

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

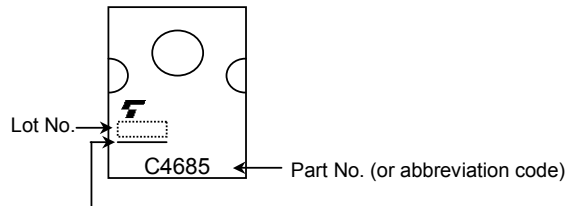
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 50\text{ V}$, $I_E = 0$	—	—	100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 8\text{ V}$, $I_C = 0$	—	—	100	nA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}$, $I_B = 0$	20	—	—	V
DC current gain	$h_{FE(1)}$	$V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$	800	—	3200	
	$h_{FE(2)}$	$V_{CE} = 2\text{ V}$, $I_C = 4\text{ A}$	250	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 4\text{ A}$, $I_B = 40\text{ mA}$	—	—	0.5	V
Base-emitter voltage	V_{BE}	$V_{CE} = 2\text{ V}$, $I_C = 4\text{ A}$	—	—	1.2	V
Transition frequency	f_T	$V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$	—	150	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$	—	45	—	pF



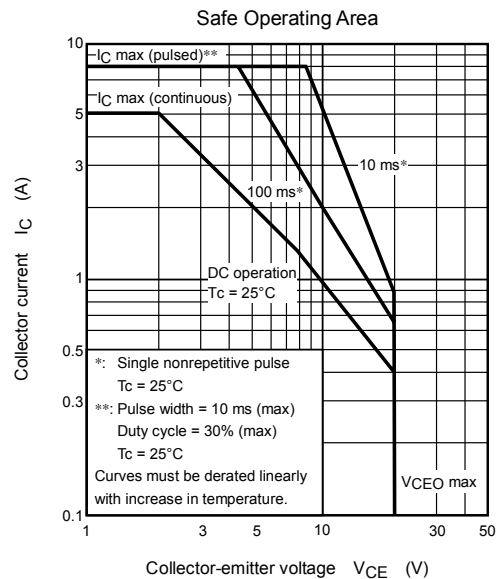
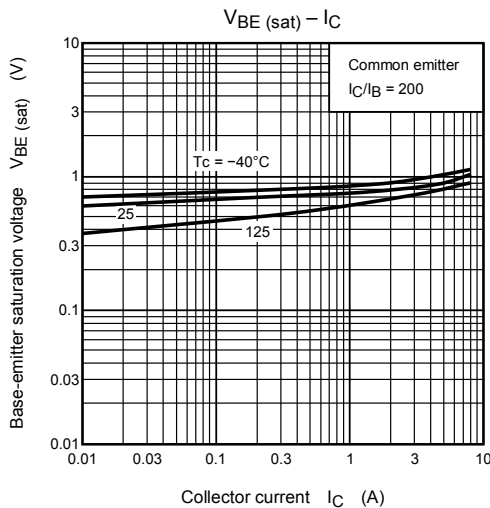
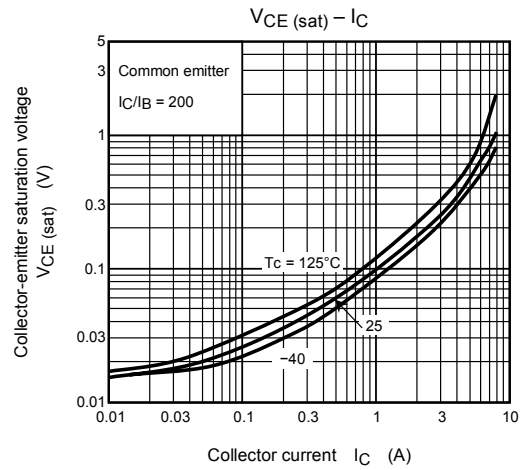
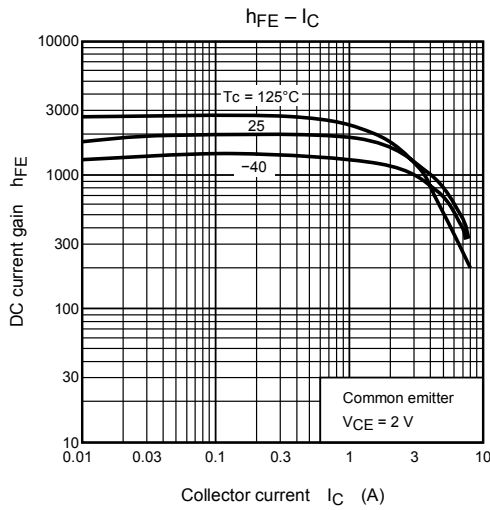
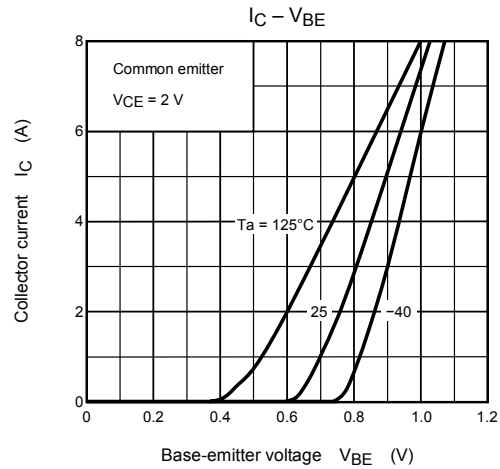
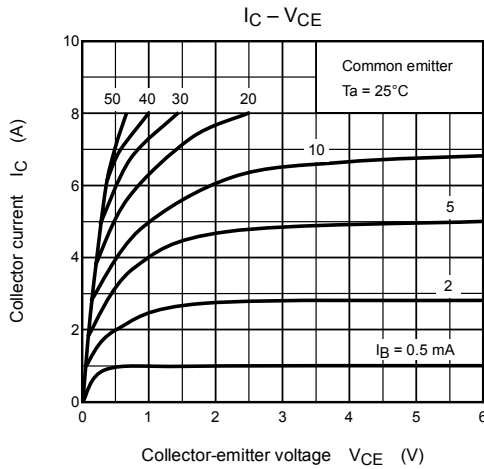
JEDEC	—
JEITA	—
TOSHIBA	2-8H1A

Weight: 0.82 g (typ.)

Marking



A line indicates
lead (Pb)-free package or
lead (Pb)-free finish.



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