

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC4684

STROBE FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain
: $h_{FE}(1) = 800 \sim 3200$ ($V_{CE} = 2\text{ V}$, $I_C = 0.5\text{ A}$)
: $h_{FE}(2) = 250$ (Min.) ($V_{CE} = 2\text{ V}$, $I_C = 4\text{ A}$)
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.5\text{ V}$ (Max.) ($I_C = 4\text{ A}$, $I_B = 40\text{ mA}$)
- High Power Dissipation
: $P_C = 10\text{ W}$ ($T_c = 25^\circ\text{C}$), $P_C = 1.0\text{ W}$ ($T_a = 25^\circ\text{C}$)

MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$)

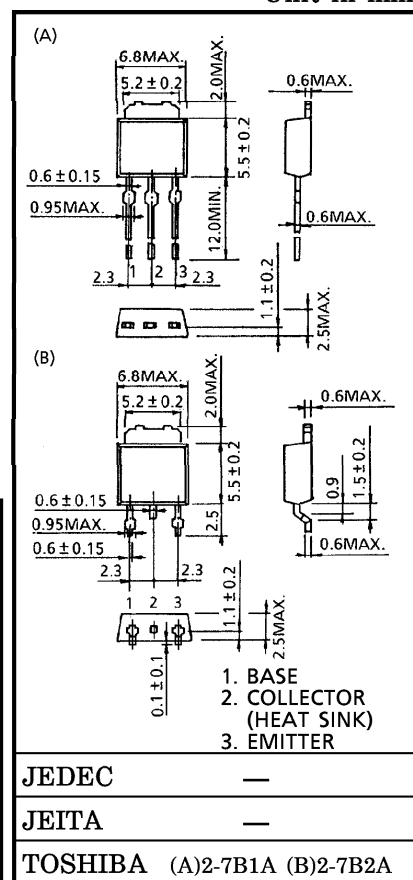
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	50	V
Collector-Emitter Voltage		V_{CES}	40	V
		V_{CEO}	20	
Emitter-Base Voltage		V_{EBO}	8	V
Collector Current	DC	I_C	5	A
	Pulse (Note 1)	I_{CP}	8	
Base Current		I_B	0.5	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	1.0	W
	$T_c = 25^\circ\text{C}$		10	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

(Note 1) : Pulse Test : Pulse Width = 10 ms (Max.)
Duty Cycle = 30% (Max.)

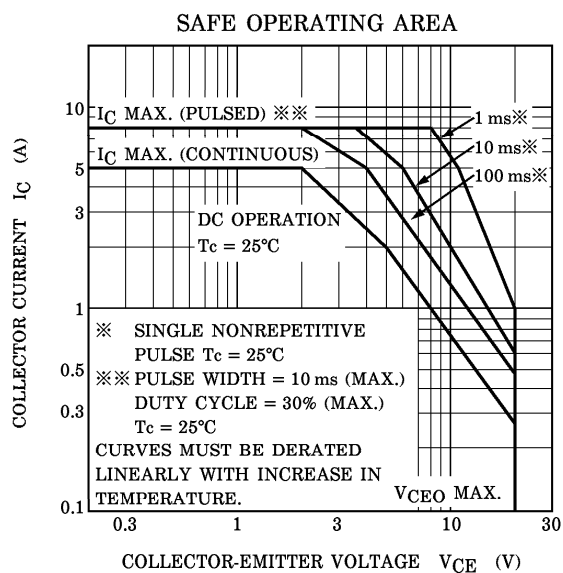
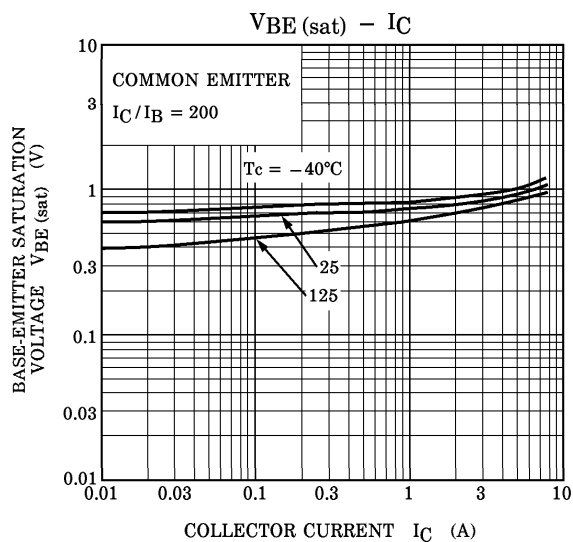
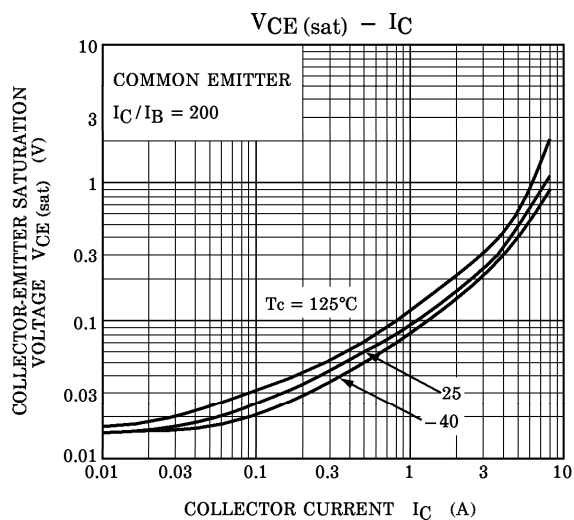
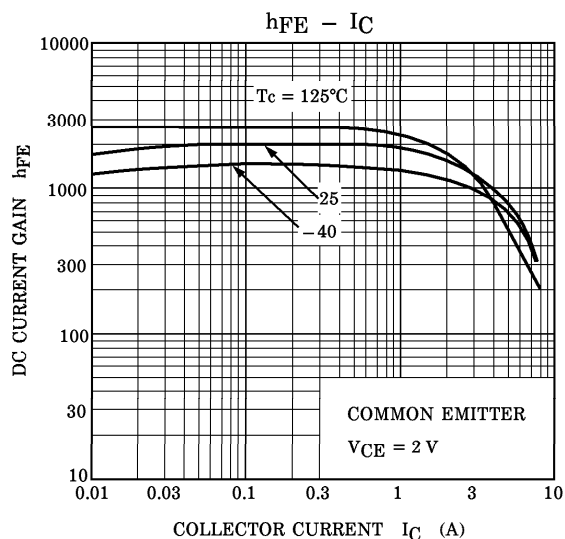
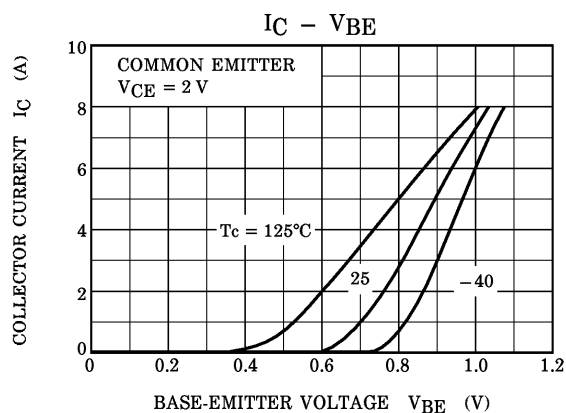
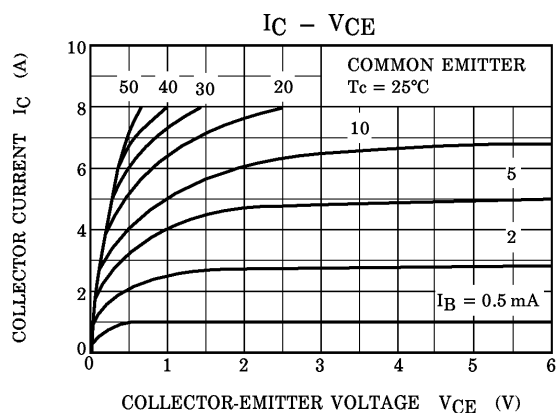
ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$)

CHARACTERISTIC	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

Unit in mm



Weight : 0.36 g (Typ.)



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