

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

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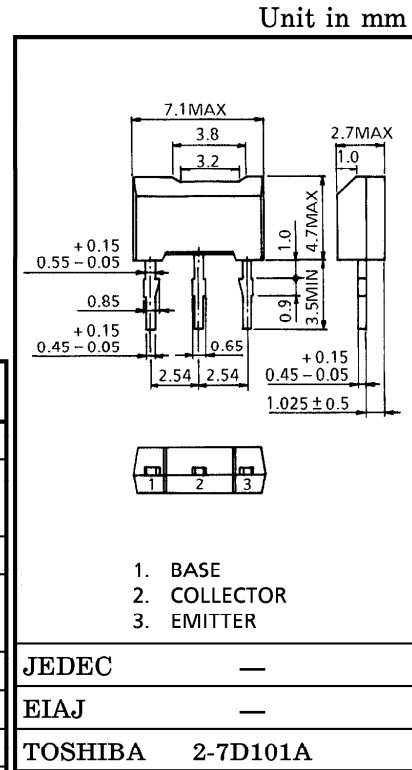
STOROBO FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain and Excellent h_{FE} Linearity
 - : $h_{FE}(1) = 140 \sim 600$
 - : $h_{FE}(2) = 70$ (Min.), 200 (Typ.)
- Low Saturation Voltage : $V_{CE(sat)} = 0.5V$ (Max.)

MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC		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	2	A
	Pulsed (Note 1)	I_{CP}	5	
Base Current		I_B	0.5	A
Collector Power Dissipation		P_C	1000	mW
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$



Weight : 0.2g (Typ.)

Note 1 : Pulse Width $\leq 10ms$, Duty Cycle $\leq 30\%$

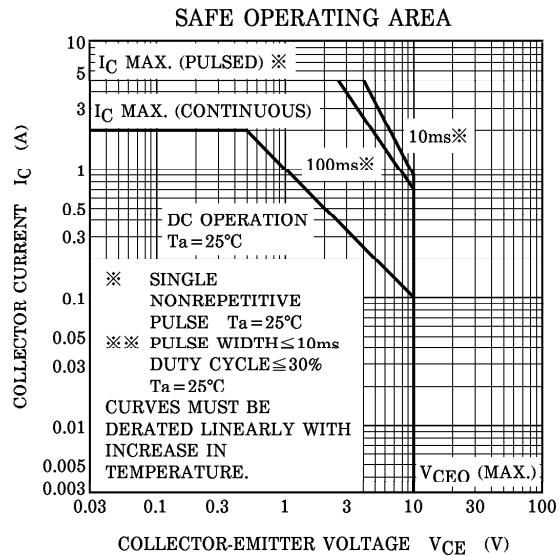
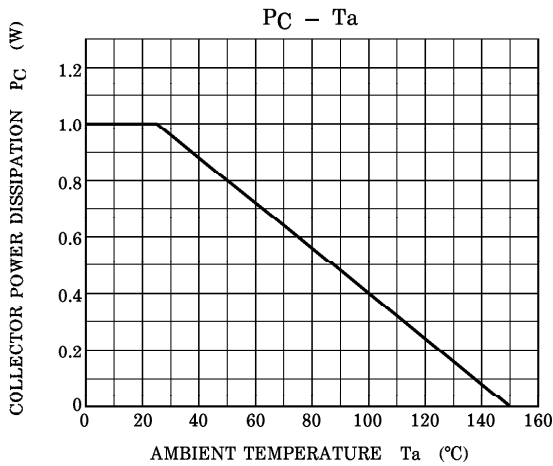
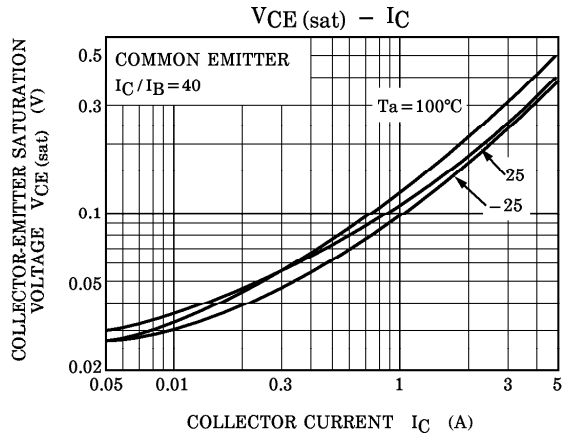
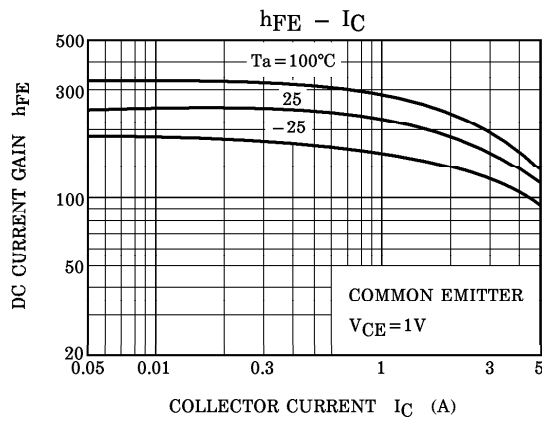
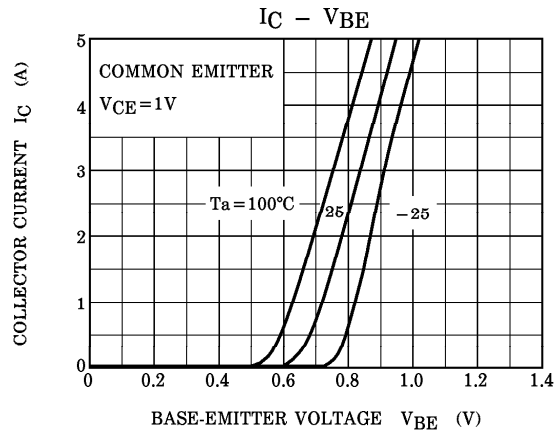
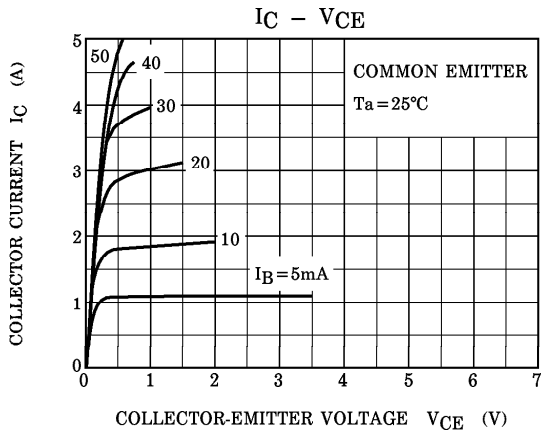
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 30V, I_E = 0$	—	—	100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 6V, I_C = 0$	—	—	100	nA
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = 10mA, I_B = 0$	10	—	—	V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = 1mA, I_C = 0$	6	—	—	V
DC Current Gain	$h_{FE}(1)$ (Note 2)	$V_{CE} = 1V, I_C = 0.5A$	140	—	600	
	$h_{FE}(2)$	$V_{CE} = 1V, I_C = 2A$	70	200	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2A, I_B = 50mA$	—	0.2	0.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 1V, I_C = 2A$	—	0.86	1.5	V
Transition Frequency	f_T	$V_{CE} = 1V, I_C = 0.5A$	—	150	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	27	—	pF

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

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