

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

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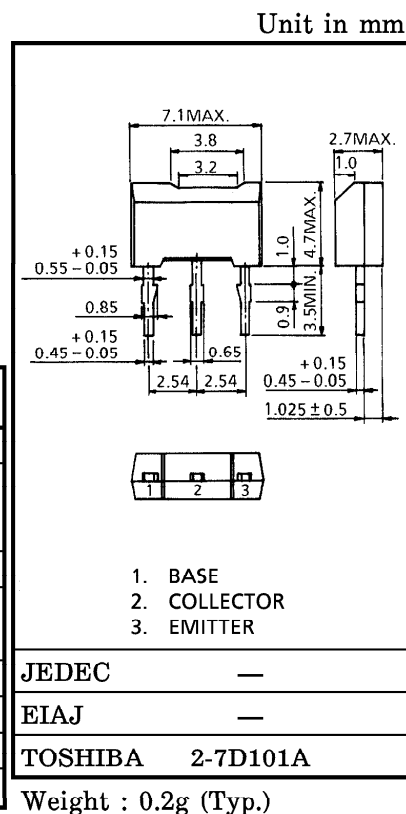
STORBE FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain and Excellent h_{FE} Linearity
 - $h_{FE}(1) = 140 \sim 450$
 - $h_{FE}(2) = 70$ (Min.)
- Low Saturation Voltage : $V_{CE(sat)} = 1.0V$ (Max.)

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

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		P_C	1000	mW
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^\circ C$

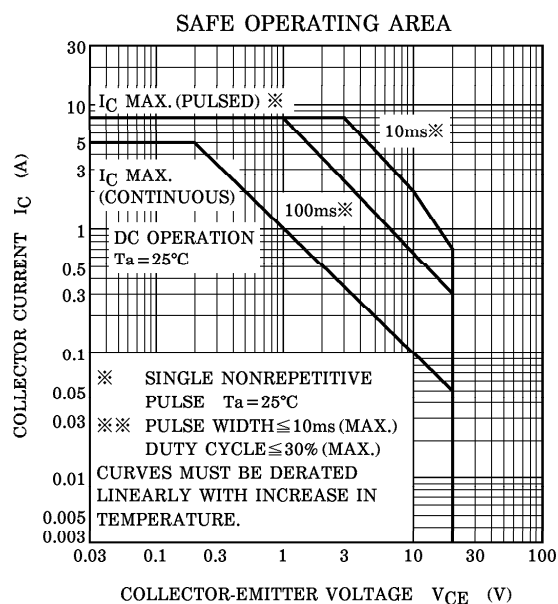
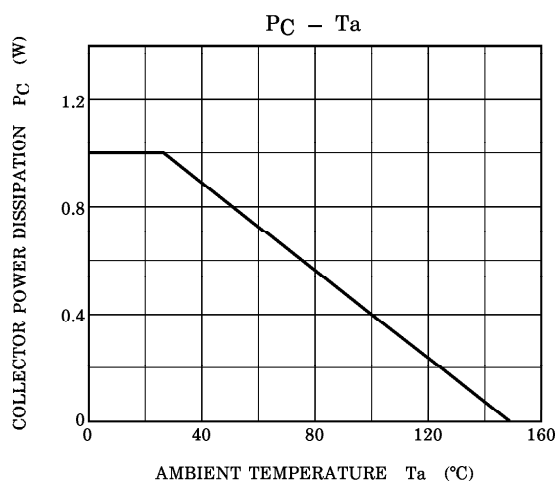
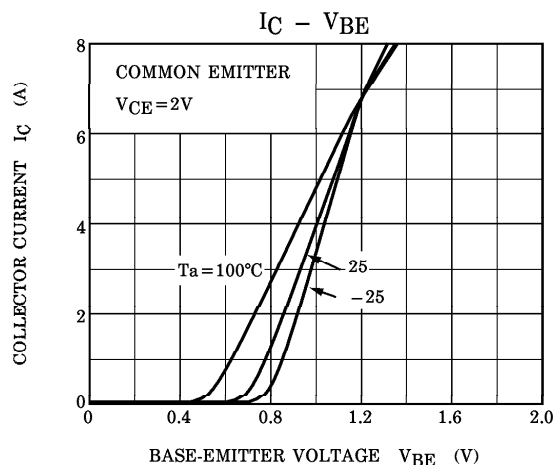
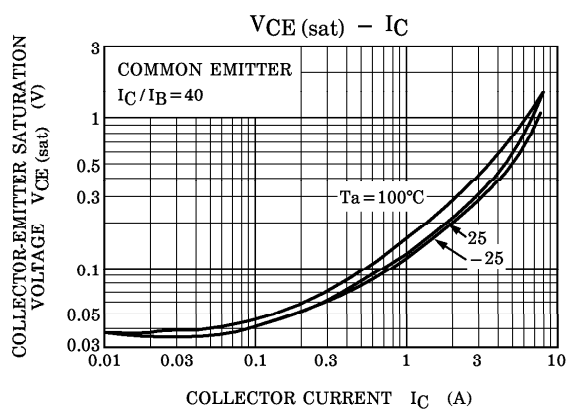
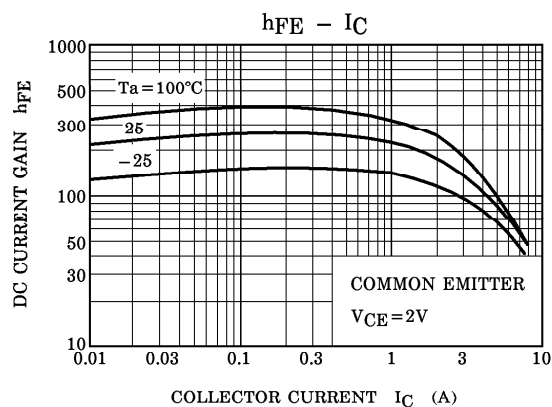
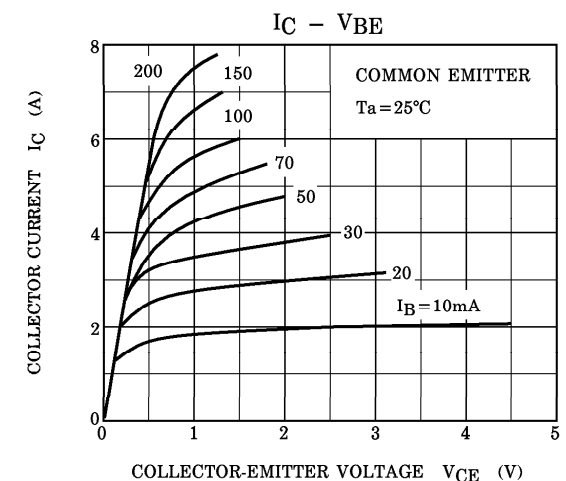
Note 1 : Pulse Width $\leq 10ms$, Duty Cycle $\leq 30\%$ ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 40V, I_E = 0$	—	—	100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 8V, I_C = 0$	—	—	100	nA
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = 10mA, I_B = 0$	20	—	—	V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = 1mA, I_C = 0$	8	—	—	V
DC Current Gain	$h_{FE}(1)$ (Note 2)	$V_{CE} = 2V, I_C = 0.5A$	140	—	450	
	$h_{FE}(2)$	$V_{CE} = 2V, I_C = 4A$	70	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A, I_B = 0.1A$	—	—	1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 2V, I_C = 4A$	—	—	1.5	V
Transition Frequency	f_T	$V_{CE} = 2V, I_C = 0.5A$	—	100	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	40	—	pF

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

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