

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

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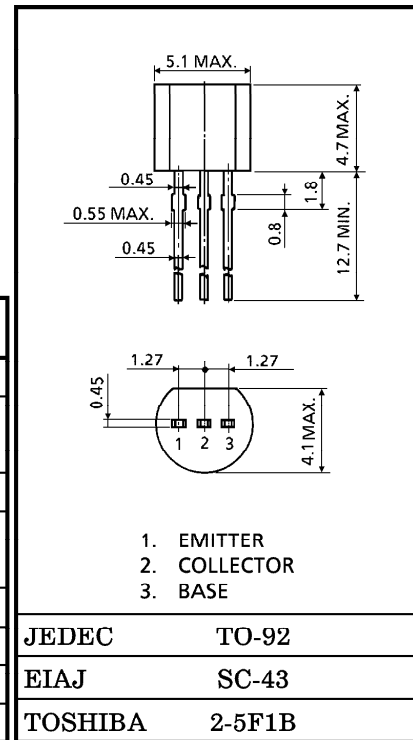
STOROBO FLASH APPLICATIONS
MEDIUM POWER AMPLIFIER APPLICATIONS

Unit in mm

- High DC Current Gain and Excellent h_{FE} Linearity
: $h_{FE}(1) = 140 \sim 600$ ($V_{CE} = 1V, I_C = 0.5A$)
: $h_{FE}(2) = 70$ (Min.), 200 (Typ.) ($V_{CE} = 1V, I_C = 2A$)
- Low Saturation Voltage
: $V_{CE(sat)} = 0.5V$ (Max.) ($I_C = 2A, I_B = 50mA$)

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	mA
	Pulsed (Note 1)	I_{CP}	
Base Current	I_B	2	mA
Collector Power Dissipation	P_C	750	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$



Weight : 0.21g

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

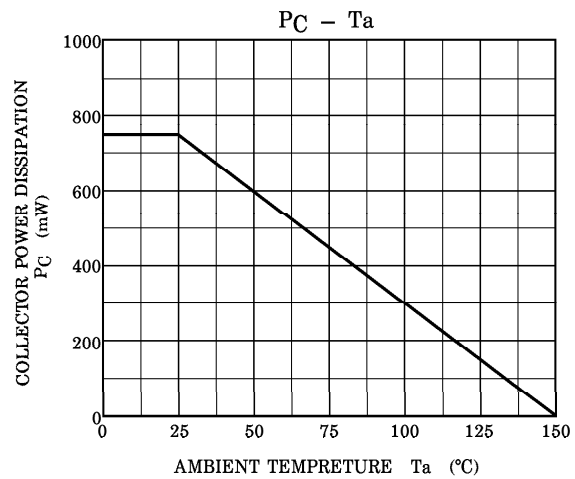
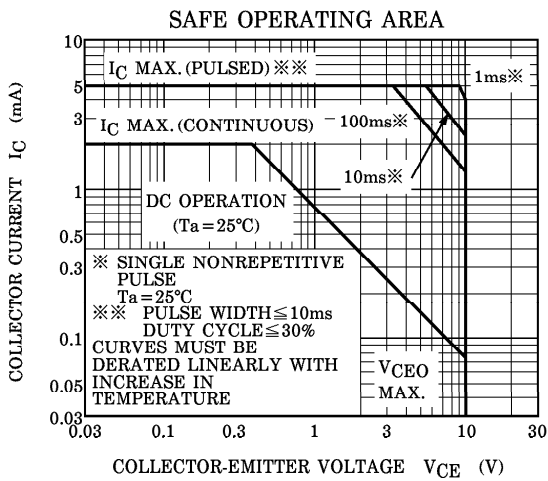
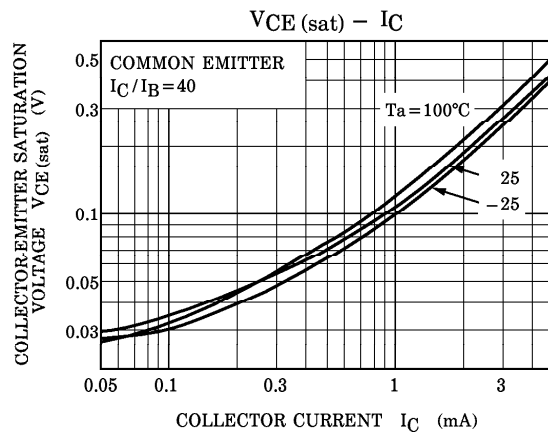
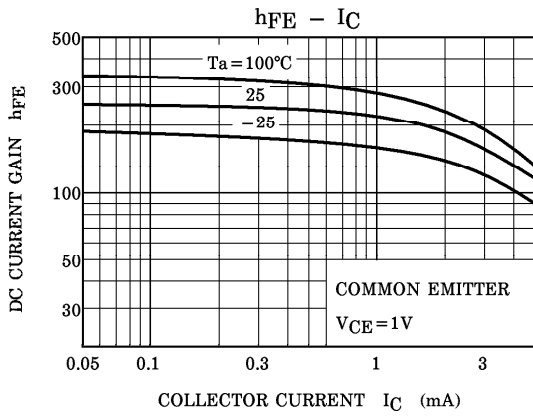
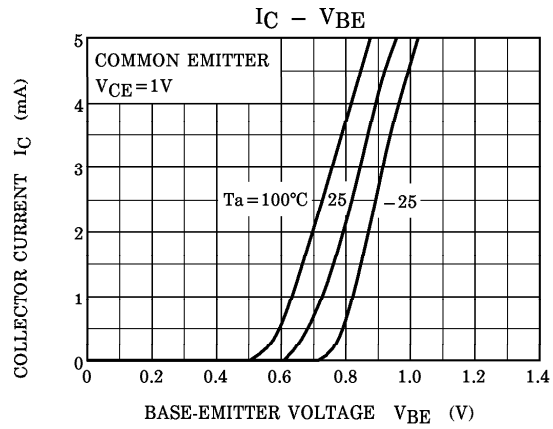
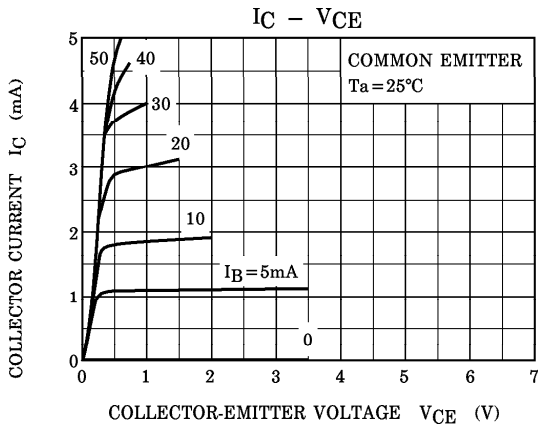
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 30V, I_E = 0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 6V, I_C = 0$	—	—	0.1	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	10	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	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 L : 140~240, M : 200~330, N : 300~450, P : 420~600

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