TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

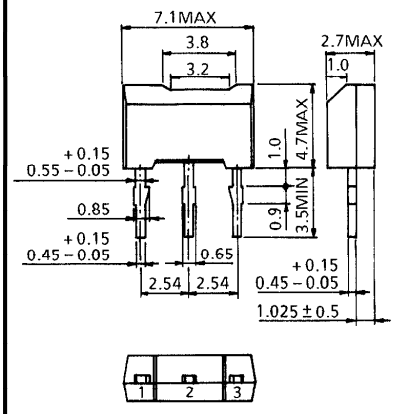
2SC3670

STOROBO FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

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

Unit in mm



1. BASE
2. COLLECTOR
3. EMITTER

JEDEC	—
EIAJ	—
TOSHIBA	2-7D101A

Weight : 0.2g (Typ.)

MAXIMUM RATINGS (Ta = 25°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	°C
Storage Temperature Range		T_{stg}	−55~150	°C

Note 1 : Pulse Width ≦ 10ms, Duty Cycle ≦ 30%

ELECTRICAL CHARACTERISTICS (Ta = 25°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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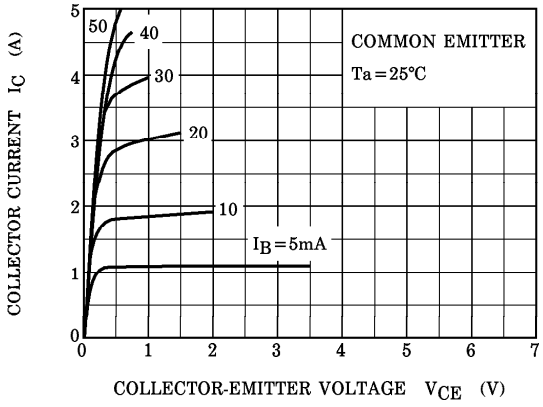
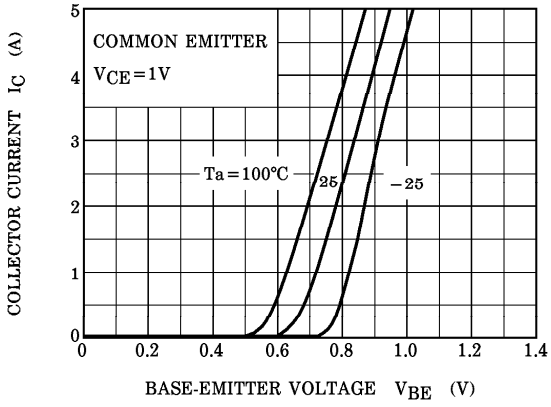
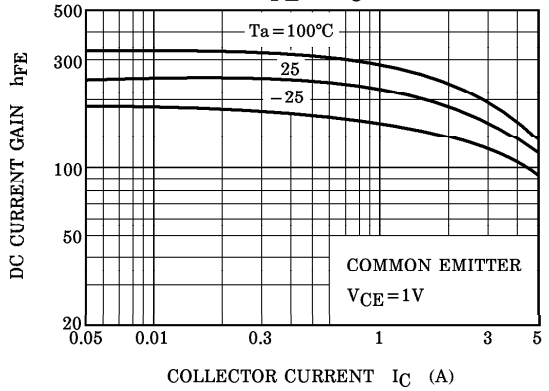
I_C – V_{CE}



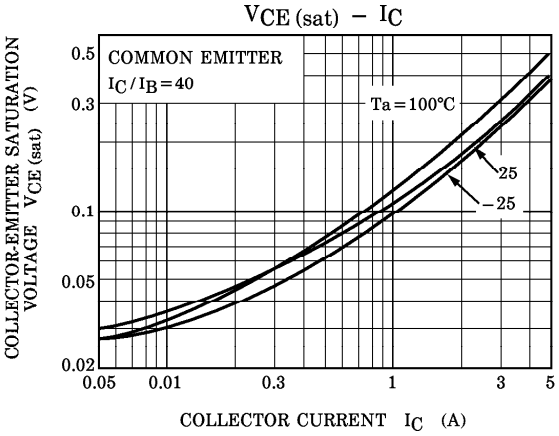
I_C – V_{BE}



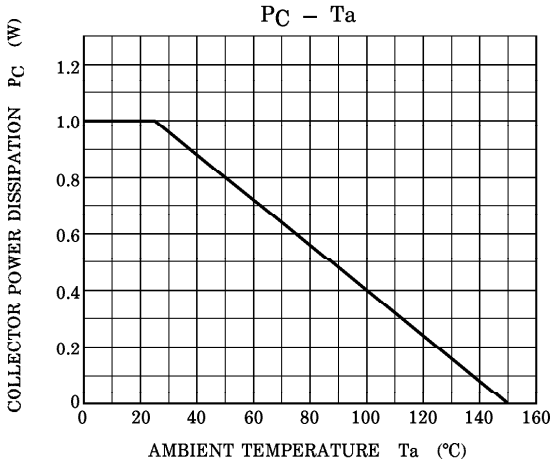
h_{FE} – I_C



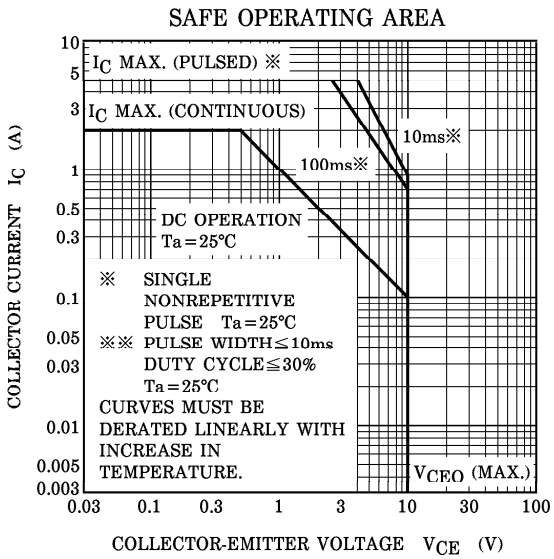
$V_{CE\,(sat)}$ – I_C



P_C – Ta



SAFE OPERATING AREA



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