

**TOSHIBA**

**2SC3670**

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC3670

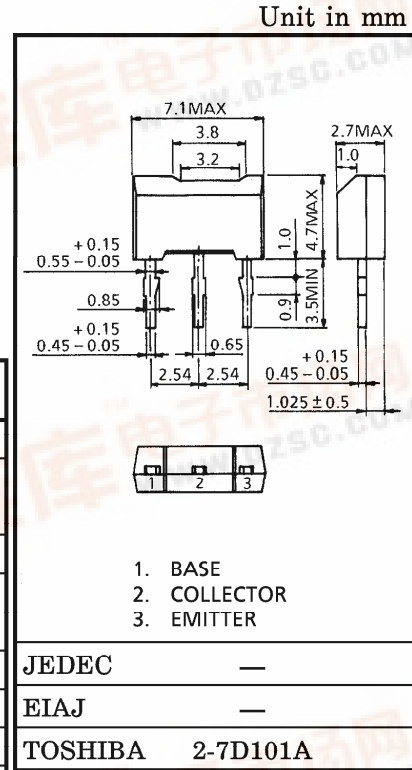
STOROBO FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain and Excellent  $h_{FE}$  Linearity
  - $h_{FE}(1) = 140 \sim 600$
  - $h_{FE}(2) = 70$  (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		$T_{stg}$	$-55 \sim 150$	$^\circ C$



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

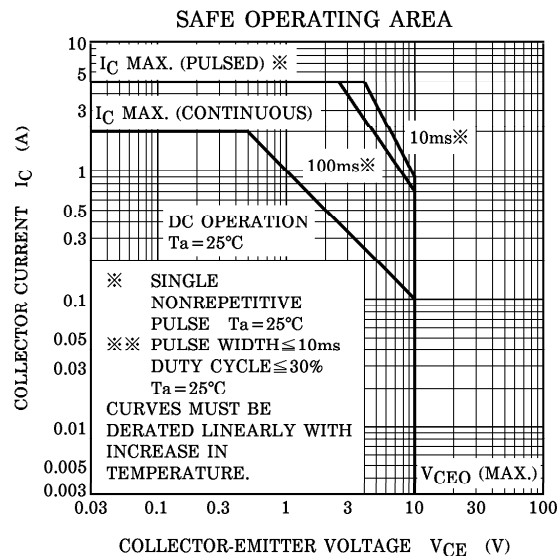
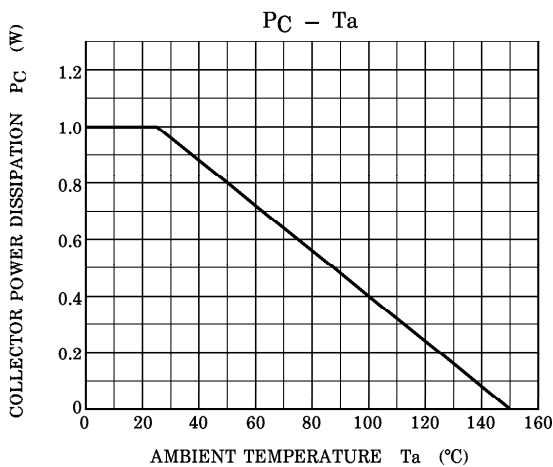
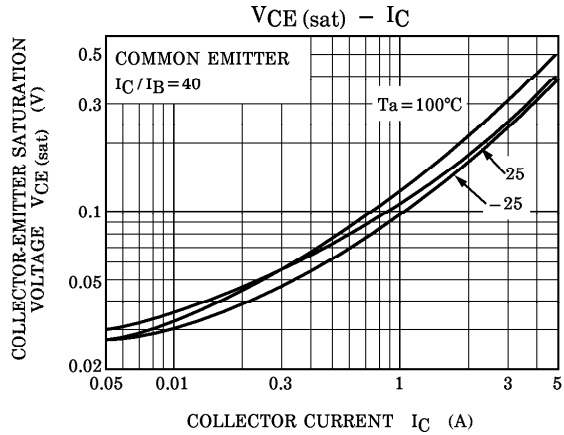
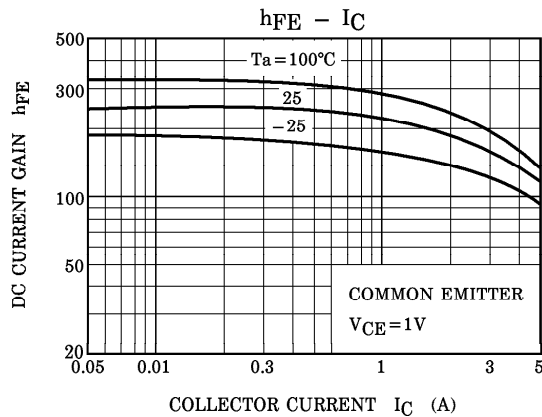
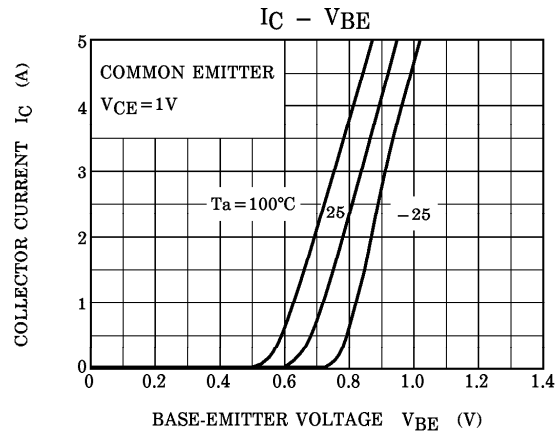
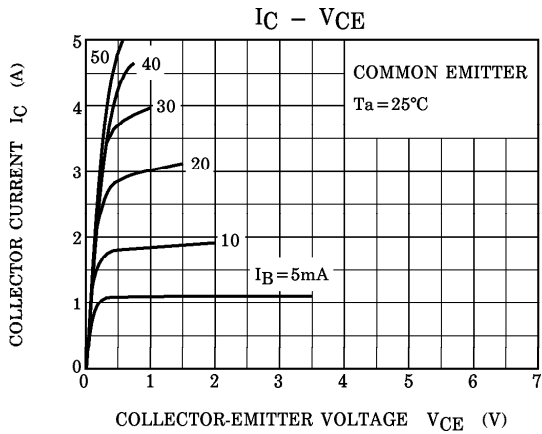
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 30V, I_E = 0$	—	—	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	
		$V_{CE} = 1V, I_C = 2A$	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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