

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

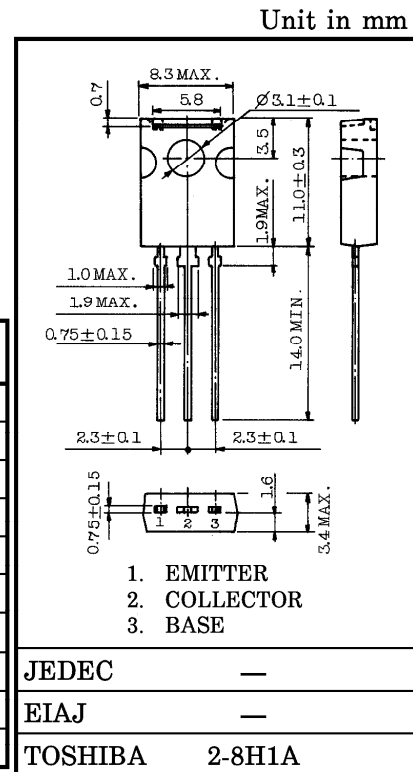
# 2SA1357

STROBE FLASH APPLICATIONS.  
AUDIO POWER AMPLIFIER APPLICATIONS.

- MIN  $h_{FE}$  of 70 at  $-2V$ ,  $-4A$ .
- $-5A$  Rated Collector Current.
- MAX  $V_{CE(sat)}$  of  $-1.0V$  at  $-4A$   $I_C$ .
- 10W at  $25^\circ C$  Case Temperature.

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	-35	V
Collector-Emitter Voltage		$V_{CEO}$	-20	V
Emitter-Base Voltage		$V_{EBO}$	-8	V
Collector Current	DC	$I_C$	-5	A
	Pulsed (Note 1)	$I_{CP}$	-8	A
Base Current		$I_B$	-1	A
Collector Power Dissipation	$T_a = 25^\circ C$	$P_C$	1.5	W
	$T_c = 25^\circ C$		10	W
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ C$



Weight : 0.82g

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

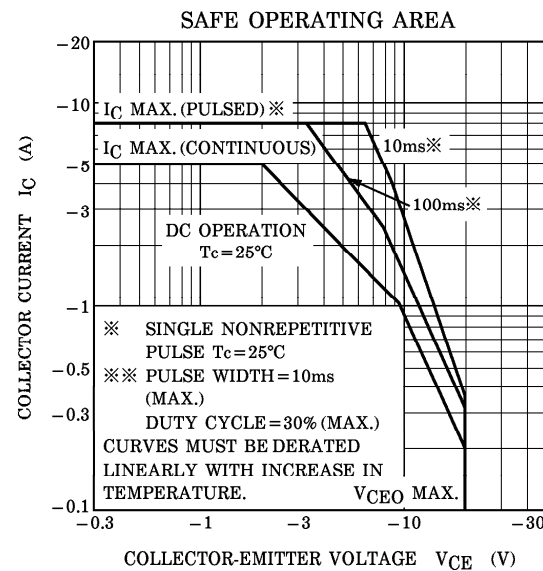
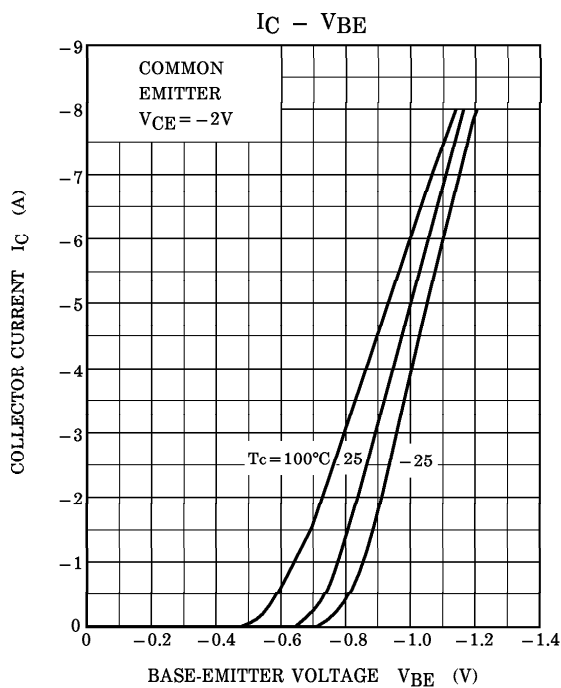
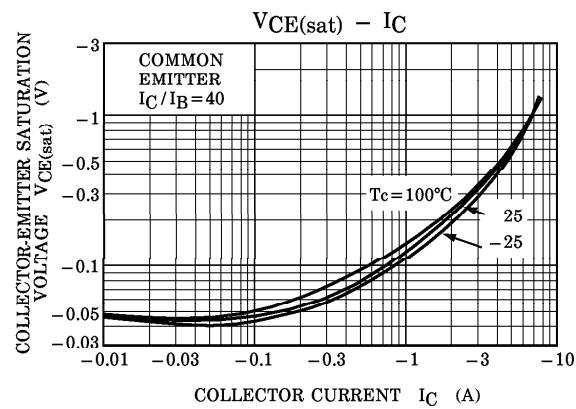
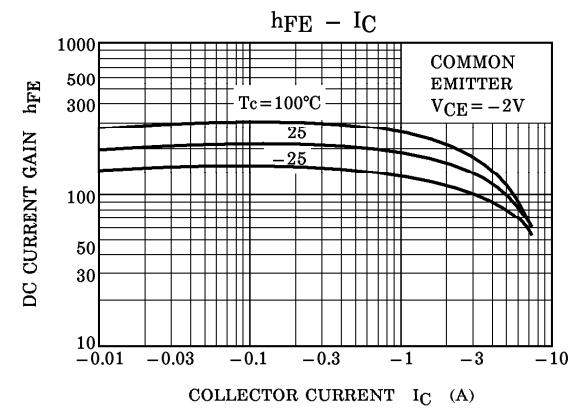
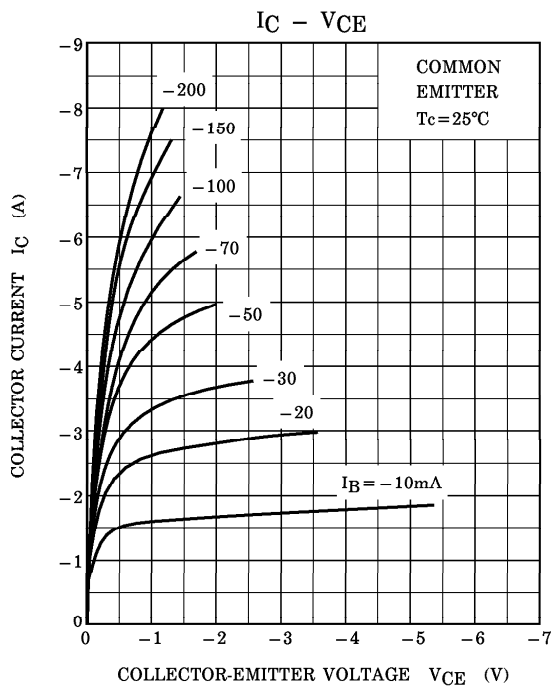
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -35V, I_E = 0$	—	—	-100	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -8V, I_C = 0$	—	—	-100	$\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-20	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note 2)	$V_{CE} = -2V, I_C = -0.5A$	100	—	320	
	$h_{FE(2)}$	$V_{CE} = -2V, I_C = -4A$	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	$f_T$	$V_{CE} = -2V, I_C = -0.5A$	—	170	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	62	—	pF

Note :  $h_{FE(1)}$  Classification O : 100~200, Y : 160~320

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