

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

# 2SA1327A

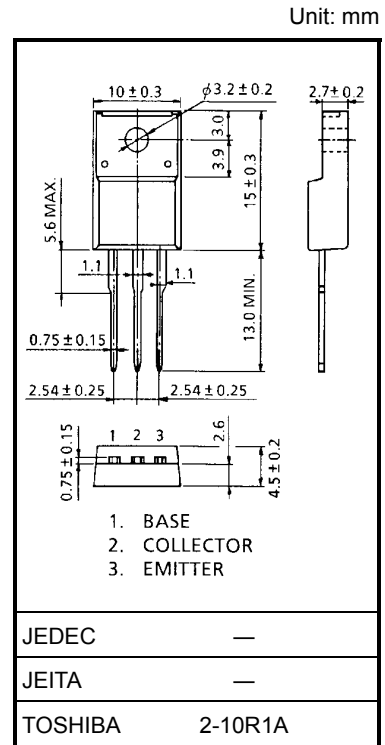
Strobe Flash Applications

Audio Power Amplifier Applications

- High DC current gain:  $h_{FE} = 70$  (min) ( $V_{CE} = -2$  V,  $I_C = -1$  A)
- Low collector saturation voltage:  $V_{CE(sat)} = -0.5$  V (max)  
( $I_C = -8$  A,  $I_B = -0.4$  A)
- High collector power dissipation:  $P_C = 20$  W ( $T_c = 25^\circ\text{C}$ )

### Absolute Maximum Ratings ( $T_c = 25^\circ\text{C}$ )

Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	-50	V
Collector-emitter voltage		$V_{CEO}$	-20	V
Emitter-base voltage		$V_{EBO}$	-8	V
Collector current	DC	$I_C$	-10	A
	Pulse	$I_{CP}$	-20	
Base current		$I_B$	-2	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	$P_C$	2.0	W
	$T_c = 25^\circ\text{C}$		20	
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55 to 150	$^\circ\text{C}$



Weight: 1.7 g (typ.)

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

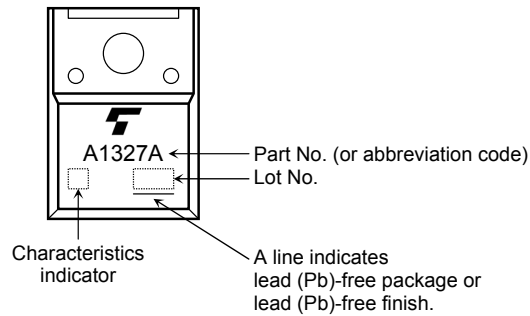
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

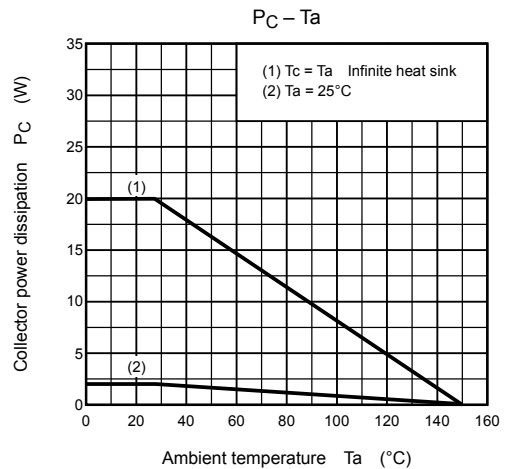
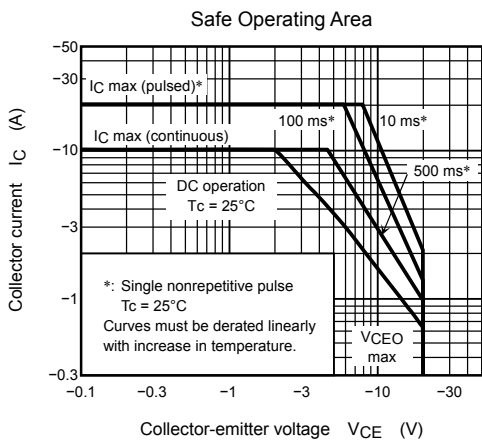
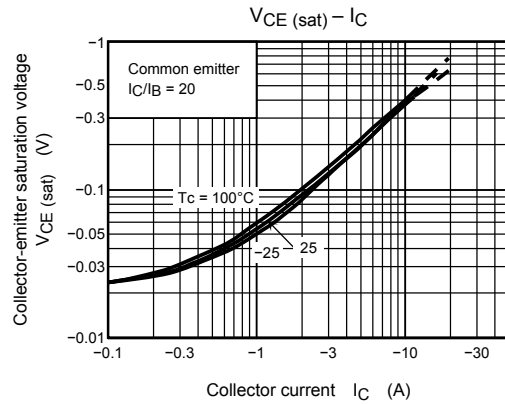
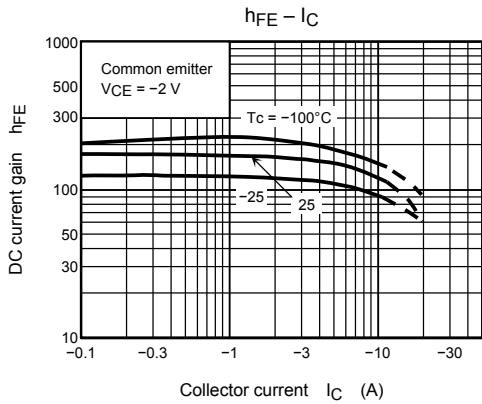
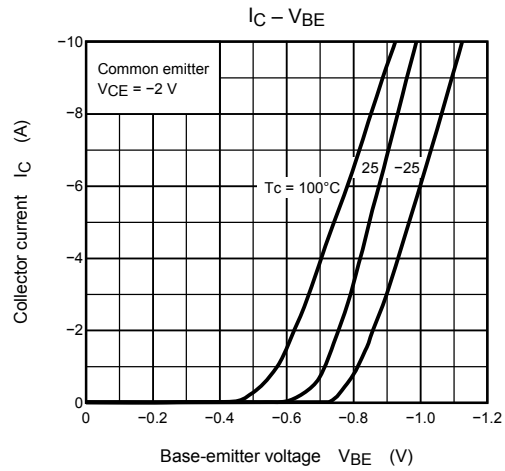
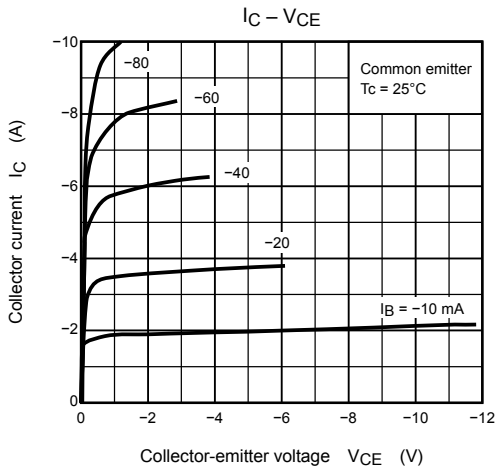
## Electrical Characteristics (Tc = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-1.0	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -8\text{ V}, I_C = 0$	—	—	-1.0	$\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-20	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = -2\text{ V}, I_C = -1\text{ A}$	100	—	320	—
	$h_{FE(2)}$	$V_{CE} = -2\text{ V}, I_C = -8\text{ A}$	70	140	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -8\text{ A}, I_B = -0.4\text{ A}$	—	-0.3	-0.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = -2\text{ V}, I_C = -8\text{ A}$	—	-0.95	-1.5	V
Transition frequency	$f_T$	$V_{CE} = -2\text{ V}, I_C = -1\text{ A}$	—	45	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	400	—	pF

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

## Marking





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