

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

**2SC1627A**

## Driver-Stage Amplifier Applications

## Voltage Amplifier Applications

Unit: mm

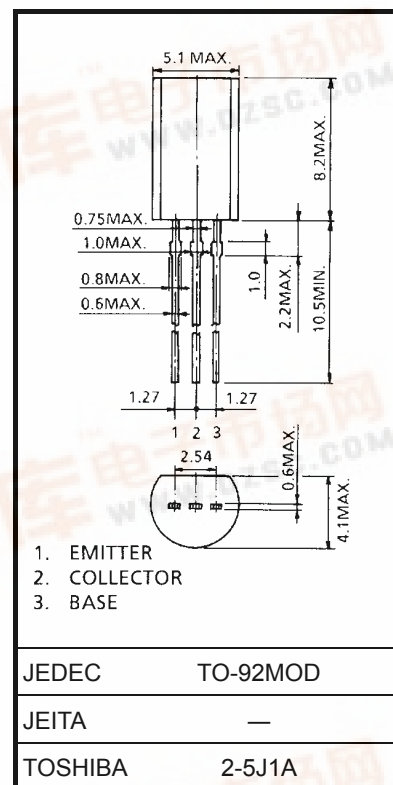
- Complementary to 2SA817A.
- Driver-stage applications for 30- to 35-watt amplifiers.

### Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	80	V
Collector-emitter voltage	$V_{CEO}$	80	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	400	mA
Base current	$I_B$	40	mA
Collector power dissipation	$P_C$	800	mW
Junction temperature	$T_j$	150	°C
Storage temperature range	$T_{stg}$	-55 to 150	°C

**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).



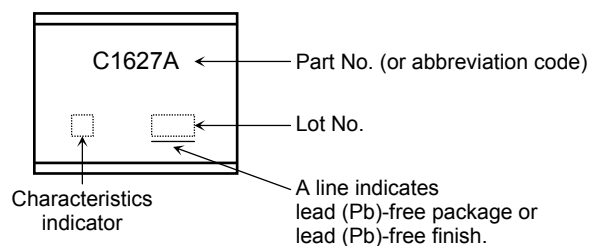
Weight: 0.36 g (typ.)

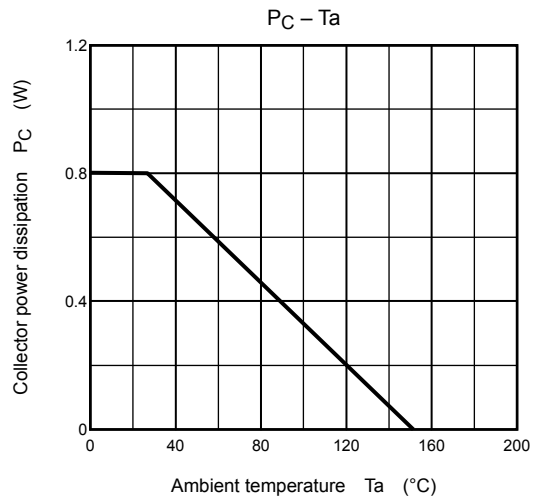
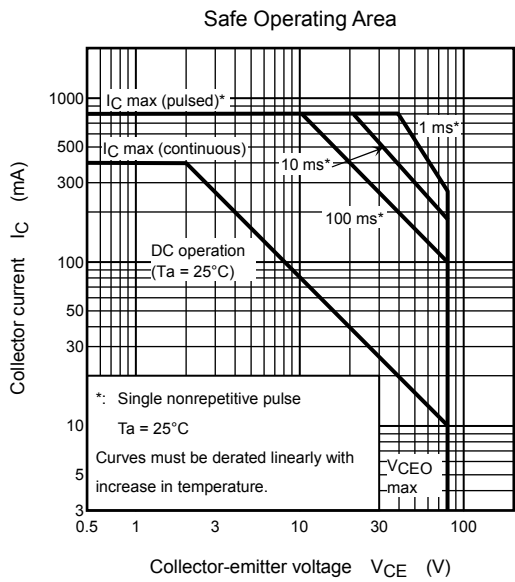
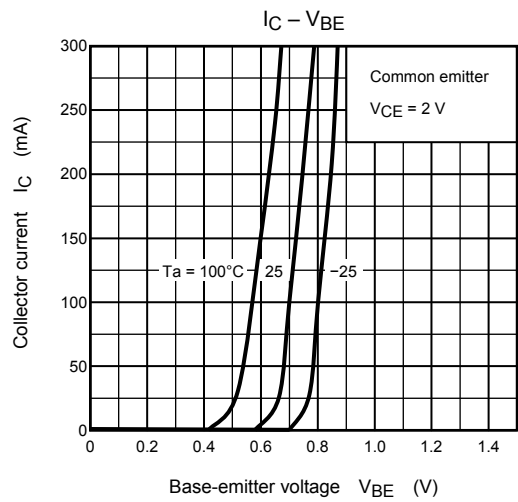
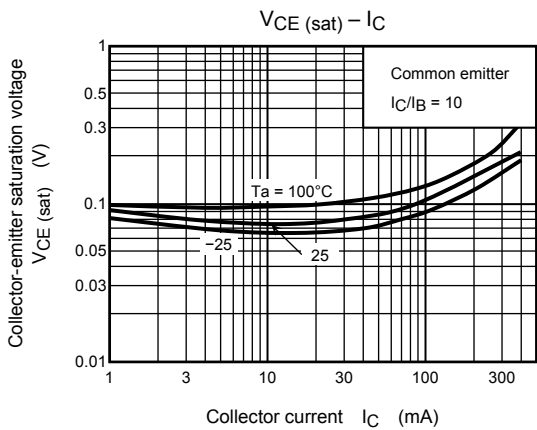
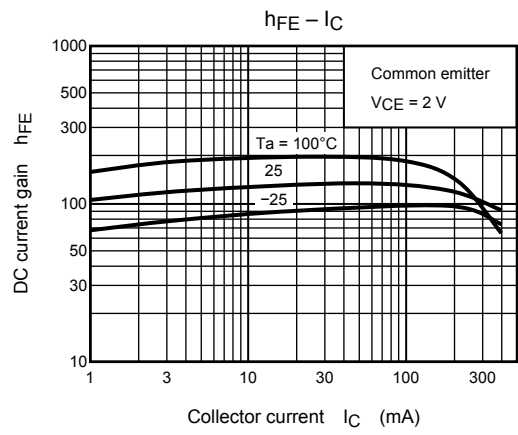
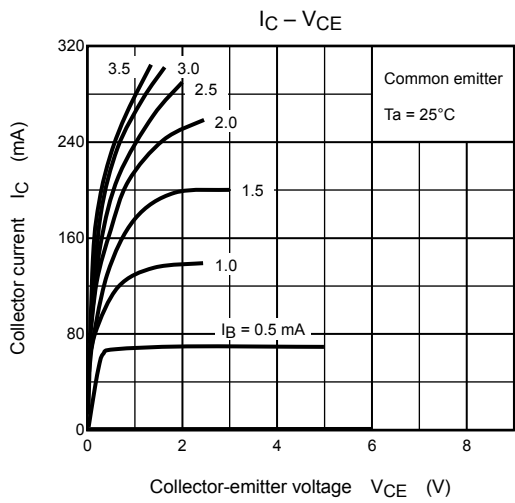
## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 50\text{ V}, I_E = 0$	—	—	100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	100	nA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 5\text{ mA}$	80	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = 2\text{ V}, I_C = 50\text{ mA}$	70	—	240	
	$h_{FE(2)}$	$V_{CE} = 2\text{ V}, I_C = 200\text{ mA}$	40	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 200\text{ mA}, I_B = 20\text{ mA}$	—	—	0.4	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 2\text{ V}, I_C = 5\text{ mA}$	0.55	—	0.8	V
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$	—	100	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, f = 1\text{ MHz}$	—	10	—	pF

Note:  $h_{FE(1)}$  classification O: 70 to 140, Y: 120 to 240

## Marking





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