

TOSHIBA Transistor Silicon NPN Epitaxial Type

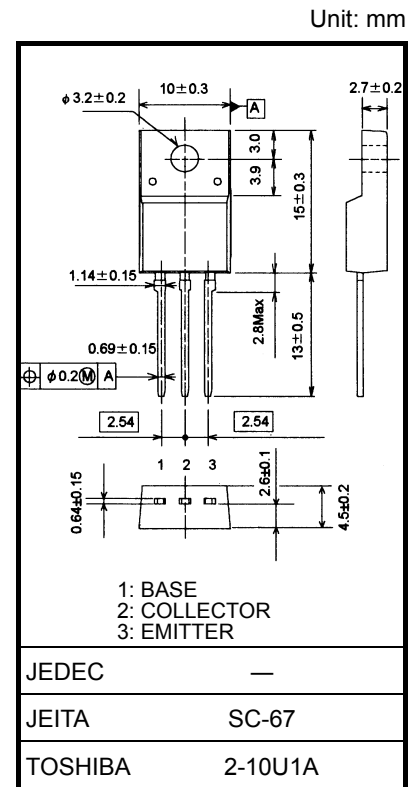
# 2SC6060

Power Amplifier Applications  
 Driver Stage Amplifier Applications

- High-transition frequency:  $f_T = 100 \text{ MHz (typ.)}$

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

Characteristic	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	230	V
Collector-emitter voltage	$V_{CE0}$	230	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	DC	$I_C$	1.0 A
	pulse	$I_{CP}$	2.0 A
Base current	$I_B$	100	mA
Collector power dissipation	$T_a = 25^\circ\text{C}$	$P_C$	2 W
	$T_c = 25^\circ\text{C}$		20 W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to 150	$^\circ\text{C}$



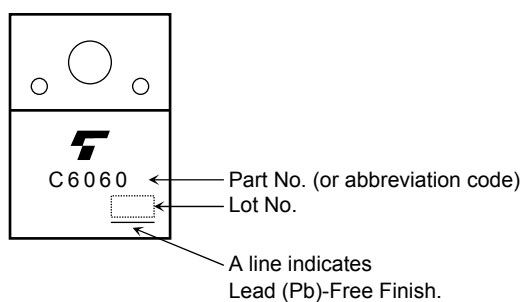
Weight: 1.7 g (typ.)

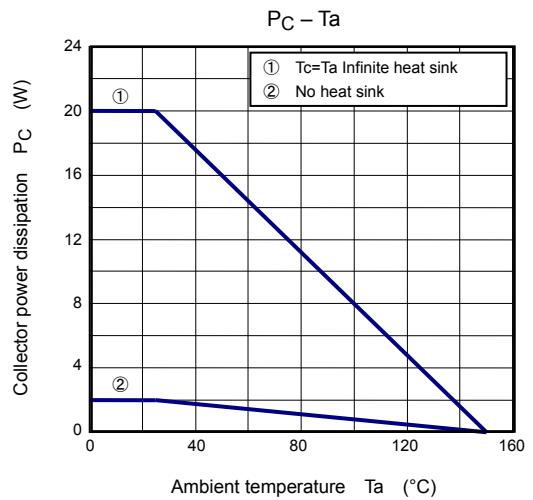
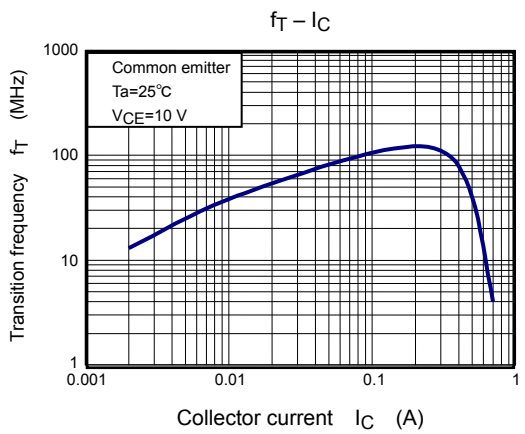
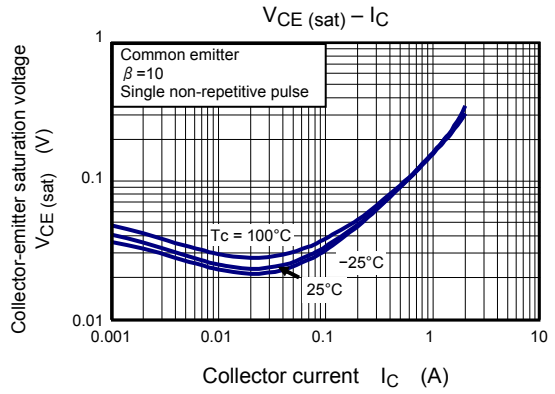
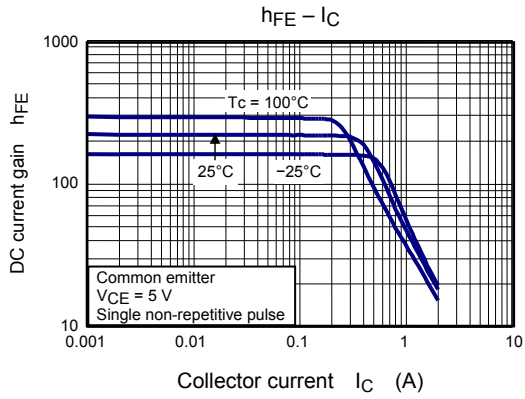
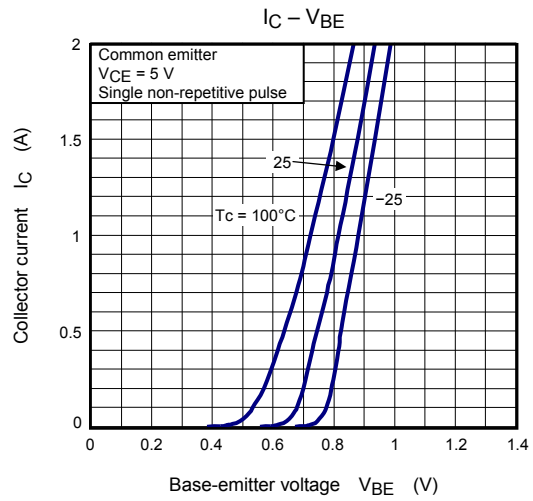
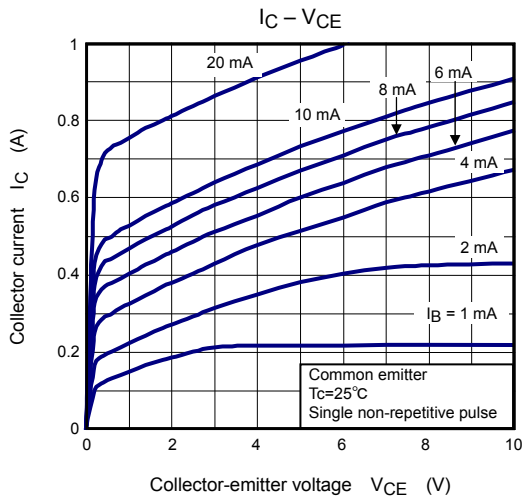
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

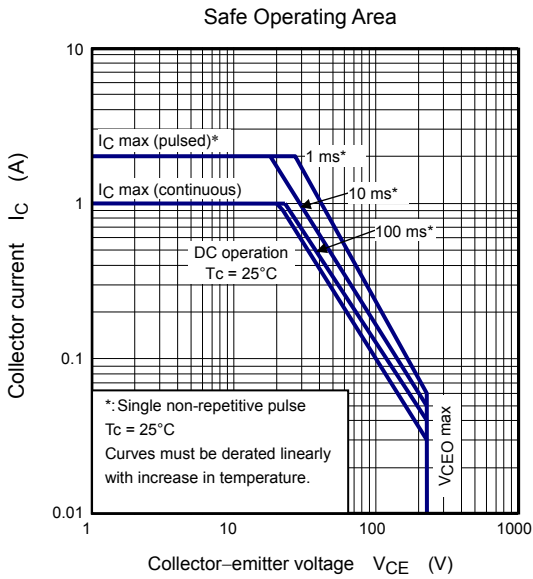
## Electrical Characteristics (Tc = 25°C)

Characteristic	Symbol	Test Conditions	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 230\text{ V}, I_E = 0$	—	—	100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	100	nA
Collector-emitter breakdown voltage	$V_{(BR) CEO}$	$I_C = 10\text{ mA}, I_B = 0$	230	—	—	V
DC current gain	$h_{FE}$	$V_{CE} = 5\text{ V}, I_C = 0.1\text{ A}$	100	—	320	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$	—	—	0.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 5\text{ V}, I_C = 500\text{ mA}$	—	—	1.0	V
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 100\text{ mA}$	—	100	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	14.5	—	pF

## Marking







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20070701-EN GENERAL

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