TOSHIBA Transistor Silicon NPN Epitaxial Type

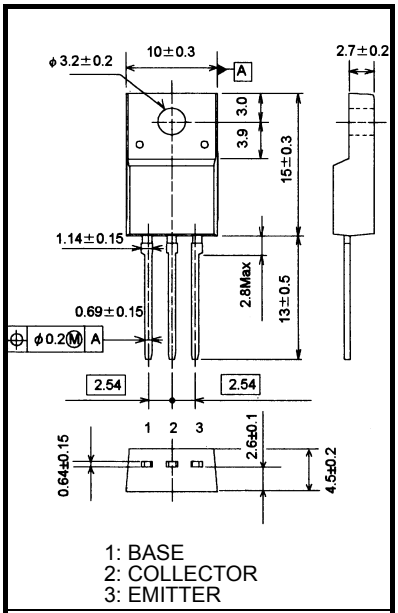
2SC6060

Power Amplifier Applications

Driver Stage Amplifier Applications

・High-transition frequency: f_T = 100 MHz (typ.)

Unit: mm



1: BASE
2: COLLECTOR
3: EMITTER

JEDEC	—
JEITA	SC-67
TOSHIBA	2-10U1A

Weight: 1.7 g (typ.)

Absolute Maximum Ratings (Tc = 25°C)

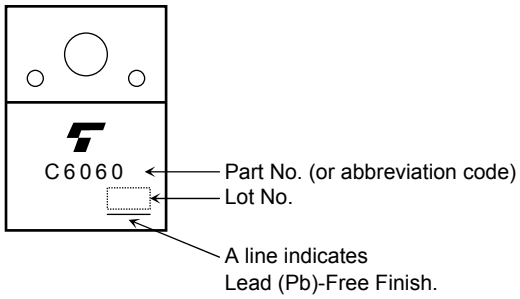
Characteristic		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	230	V
Collector-emitter voltage		V_{CEO}	230	V
Emitter-base voltage		V_{EBO}	5	V
Collector current	DC	I_C	1.0	A
	pulse	I_{CP}	2.0	A
Base current		I_B	100	mA
Collector power dissipation	Ta = 25°C	P_C	2	W
	Tc = 25°C		20	W
Junction temperature		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).

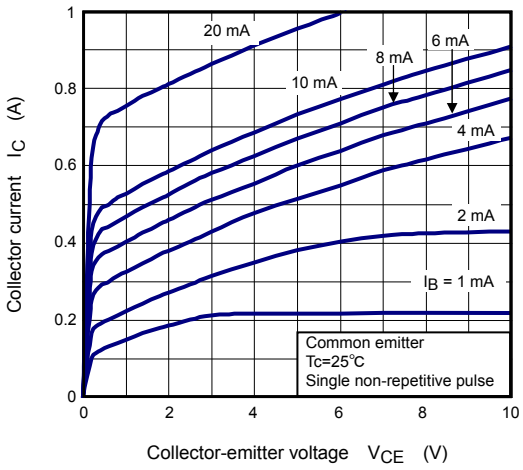
Electrical Characteristics (Tc = 25°C)

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

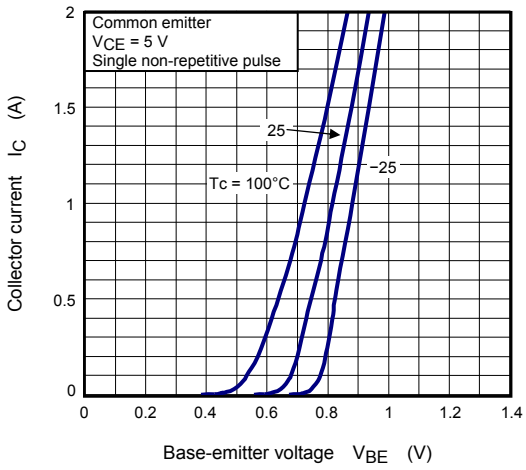
Marking



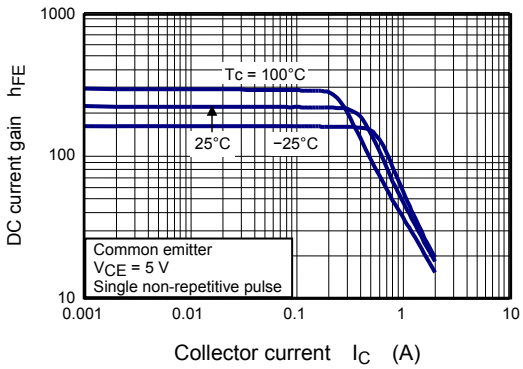
$I_C - V_{CE}$



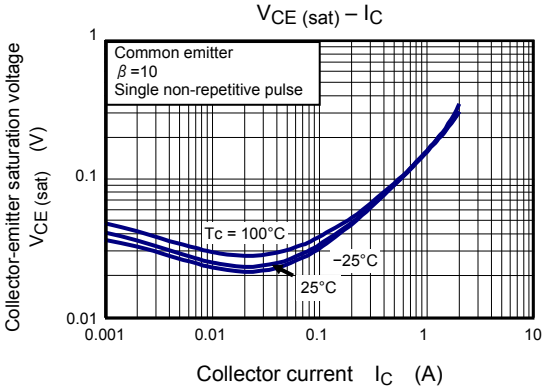
$I_C - V_{BE}$



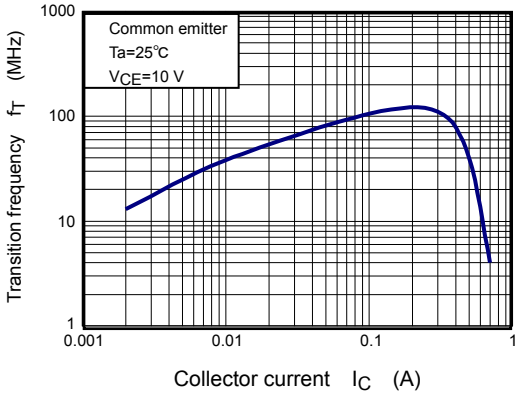
$h_{FE} - I_C$



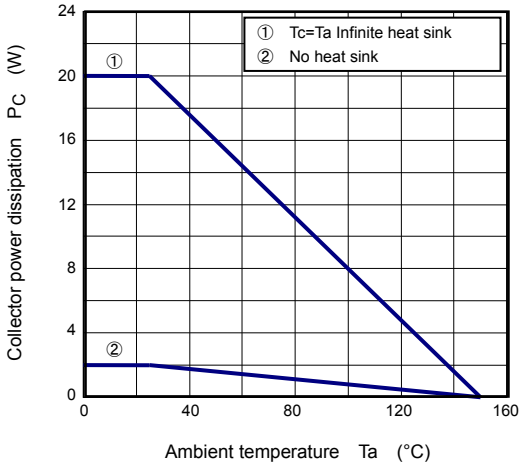
$V_{CE\ (sat)} - I_C$



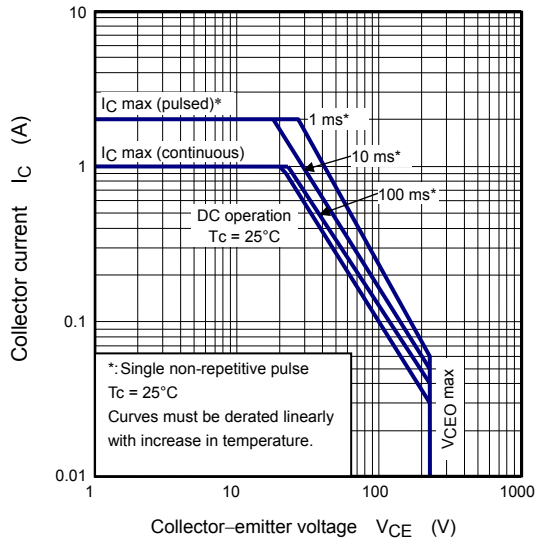
$f_T - I_C$



$P_C - Ta$



Safe Operating Area



RESTRICTIONS ON PRODUCT USE

20070701-EN GENERAL

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