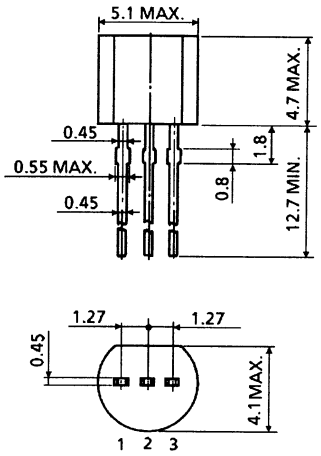
TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC1627

Driver Stage Amplifier Applications
Voltage Amplifier Applications

- Complementary to 2SA817
- Driver stage application of 20 to 25 watts amplifiers.

Unit: mm



JEDEC	TO-92
JEITA	SC-43
TOSHIBA	2-5F1B

Weight: 0.21 g (typ.)

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	300	mA
Base current	I_B	60	mA
Collector power dissipation	P_C	600	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	55~125	°C

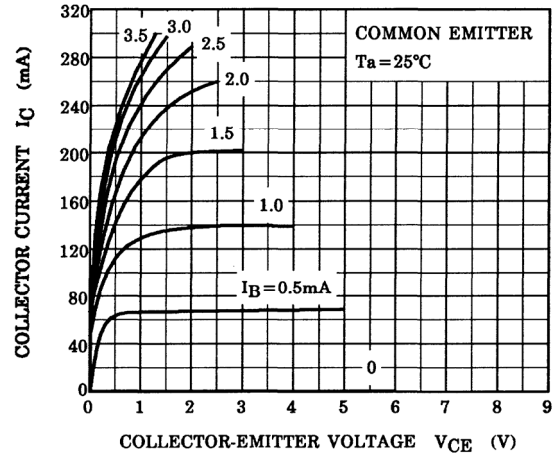
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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 (Ta = 25°C)

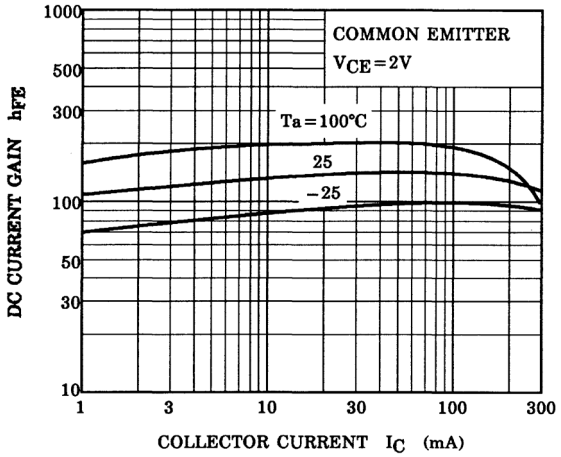
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 50 V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 5 V, I_C = 0	—	—	0.1	μA
Collector-emitter saturation voltage	$V_{(BR)\ CEO}$	I_C = 5 mA, I_B = 0	80	—	—	V
DC current gain	$h_{FE\ (1)}$ (Note)	V_{CE} = 2 V, I_C = 50 mA	70	—	240	
	$h_{FE\ (2)}$	V_{CE} = 2 V, I_C = 200 mA	40	—	—	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 200 mA, I_B = 10 mA	—	—	0.5	V
Base-emitter voltage	V_{BE}	V_{CE} = 2 V, I_C = 5 mA	0.55	—	0.8	V
Transition frequency	f_T	V_{CE} = 10 V, I_C = 10 mA	—	100	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	—	10	—	pF

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

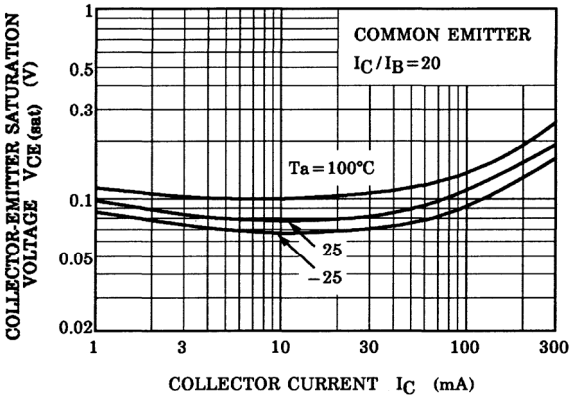
I_C – V_{CE}



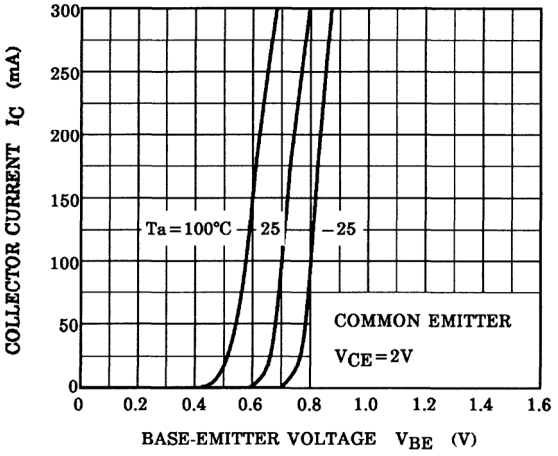
h_{FE} – I_C



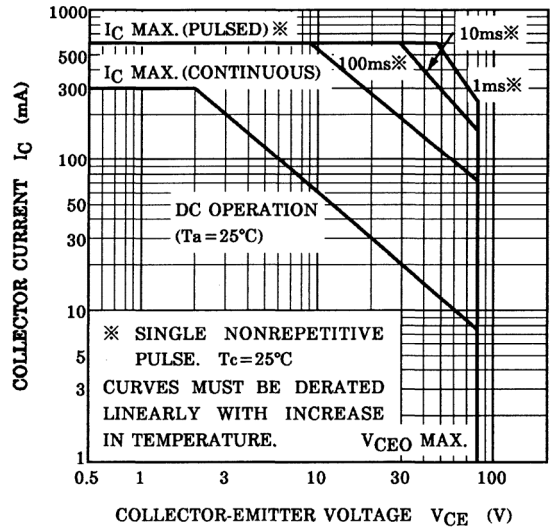
$V_{CE\,(sat)}$ – I_C



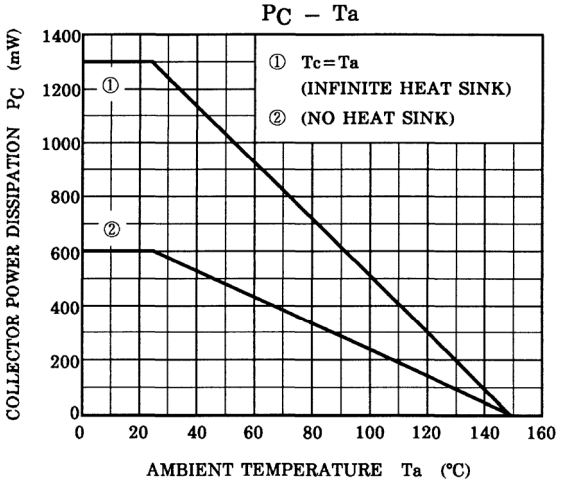
I_C – V_{BE}



SAFE OPERATING AREA



P_C – Ta



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20070701-EN GENERAL

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