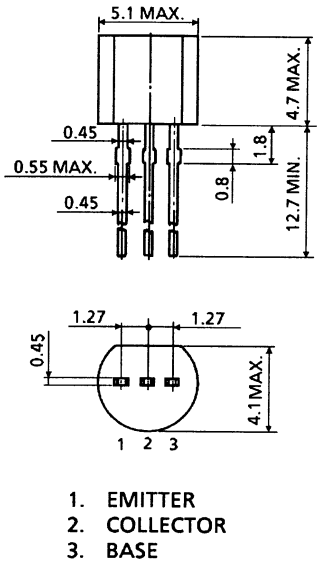
TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA1296

Power Amplifier Applications
Power Switching Applications

- Low saturation voltage: $V_{CE\ (sat)}$ = −0.5 V (max) @I_C = −2 A
- Complementary to 2SC3266.

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}	−20	V
Collector-emitter voltage	V_{CEO}	−20	V
Emitter-base voltage	V_{EBO}	−6	V
Collector current	I_C	−2	A
Base current	I_B	−0.5	A
Collector power dissipation	P_C	750	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55~150	°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 (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = −20 V, I_E = 0	—	—	−0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = −6 V, I_C = 0	—	—	−0.1	μA
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = −10 mA, I_B = 0	−20	—	—	V
Emitter-base breakdown voltage	$V_{(BR)\ EBO}$	I_E = −0.1 mA, I_C = 0	−6	—	—	V
DC current gain	$h_{FE\ (1)}$ (Note)	V_{CE} = −2 V, I_C = −0.1 A	120	—	400	
	$h_{FE\ (2)}$	V_{CE} = −2 V, I_C = −2 A	40	—	—	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = −2 A, I_B = −0.1 A	—	—	−0.5	V
Base-emitter voltage	V_{BE}	V_{CE} = −2 V, I_C = −0.1 A	—	—	−0.85	V
Transition frequency	f_T	V_{CE} = −2 V, I_C = −0.5 A	—	120	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = −10 V, I_E = 0, f = 1 MHz	—	40	—	pF

Note: $h_{FE\ (1)}$ Y: 120~240, GR: 200~400

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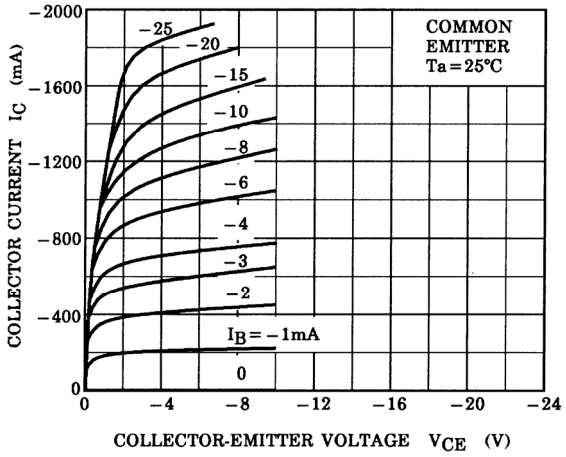
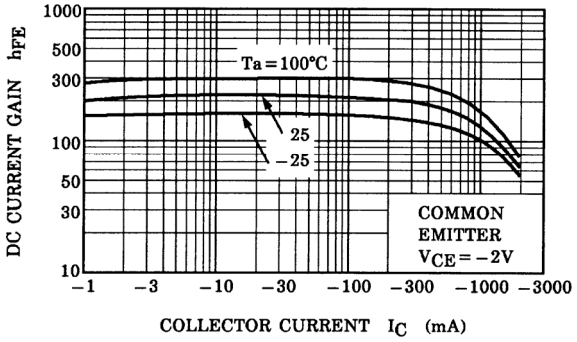
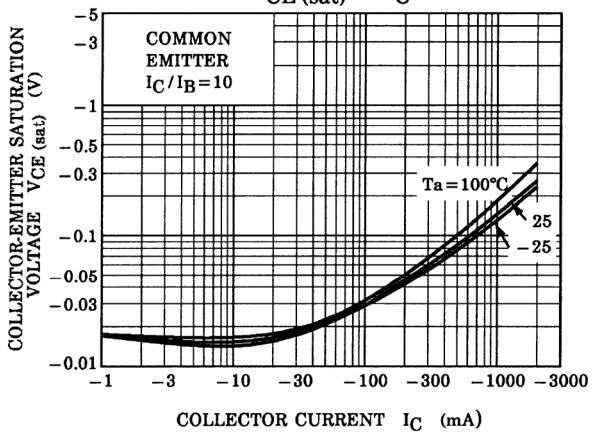
I_C – V_{CE}



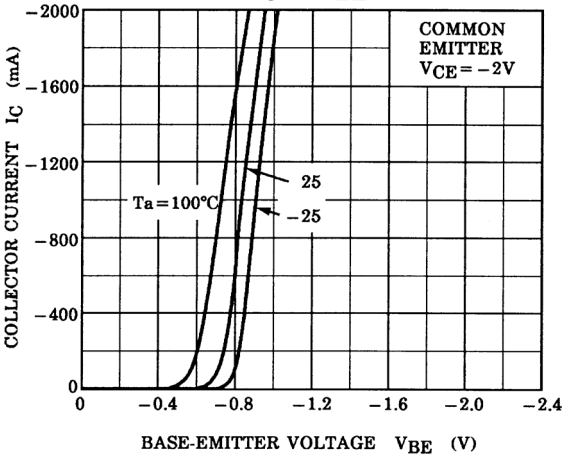
h_{FE} – I_C



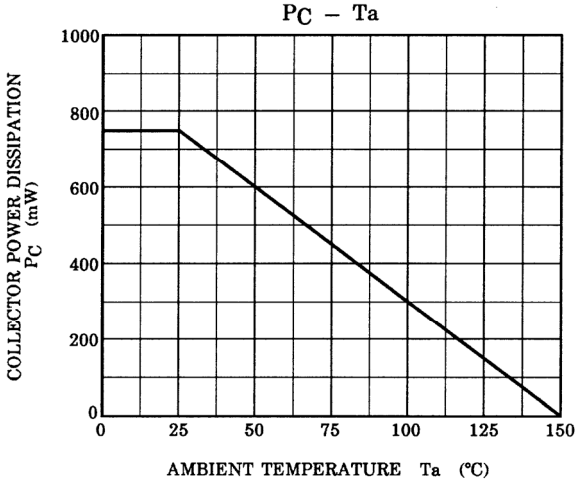
$V_{CE\,(sat)}$ – I_C



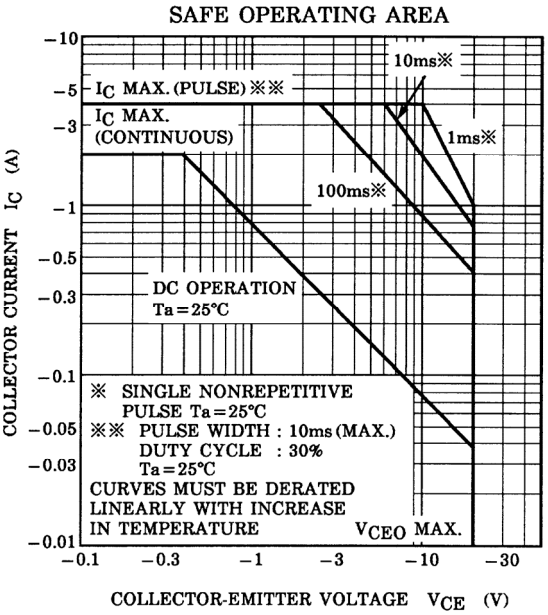
I_C – V_{BE}



P_C – Ta



SAFE OPERATING AREA



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20070701-EN GENERAL

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