

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA1618

Audio Frequency General Purpose Amplifier Applications

- Small package (dual type)
- High voltage and high current: $V_{CEO} = -50\text{ V}$, $I_C = -150\text{ mA}$ (max)
- High h_{FE} : $h_{FE} = 120\sim 400$
- Excellent h_{FE} linearity: $h_{FE}(I_C = -0.1\text{ mA}) / h_{FE}(I_C = -2\text{ mA}) = 0.95$ (typ.)
- Complementary to 2SC4207

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$) (Q1, Q2 common)

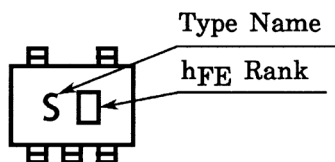
Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-150	mA
Base current	I_B	-30	mA
Collector power dissipation	P_C (Note 1)	300	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~125	$^\circ\text{C}$

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.

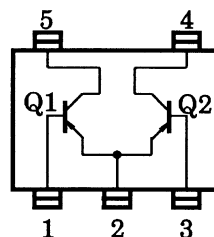
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: Total rating

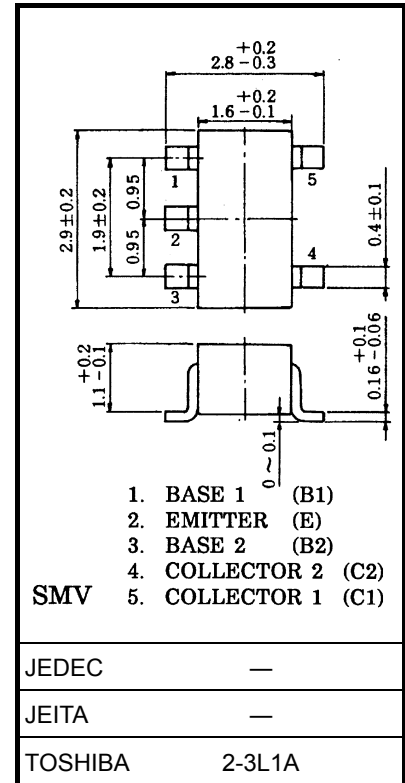
Marking



Equivalent Circuit (top view)



Unit: mm



Weight: 0.014 g (typ.)

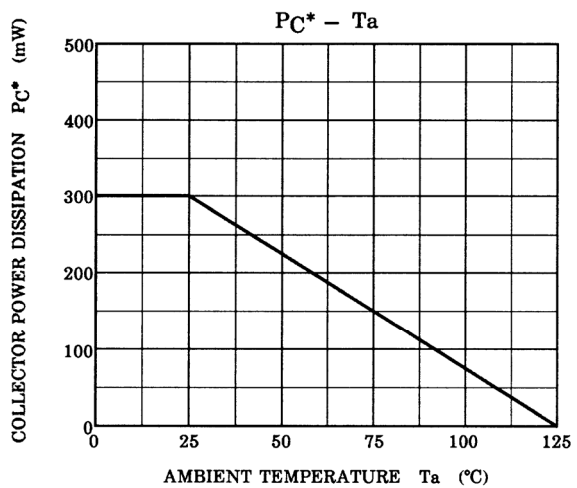
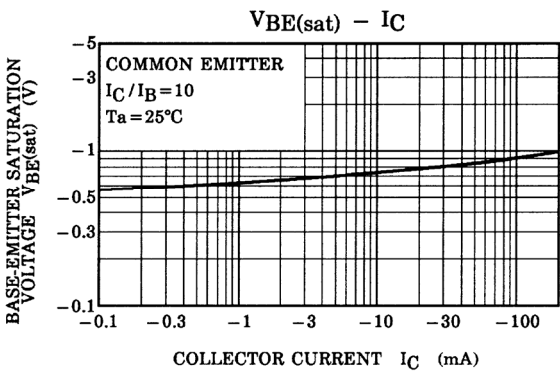
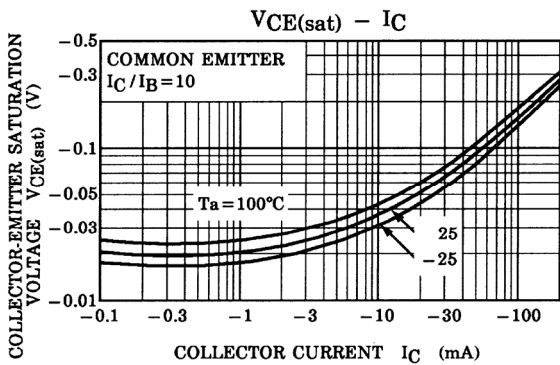
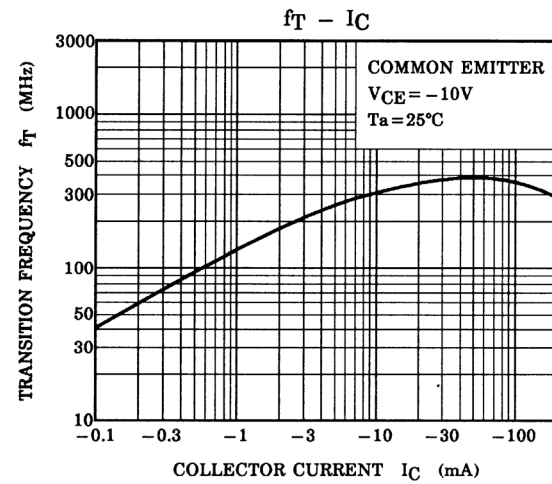
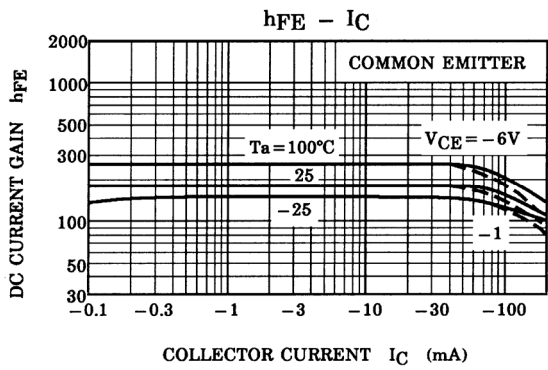
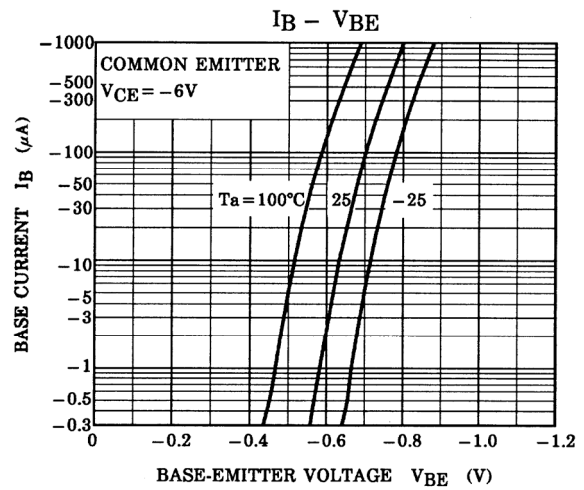
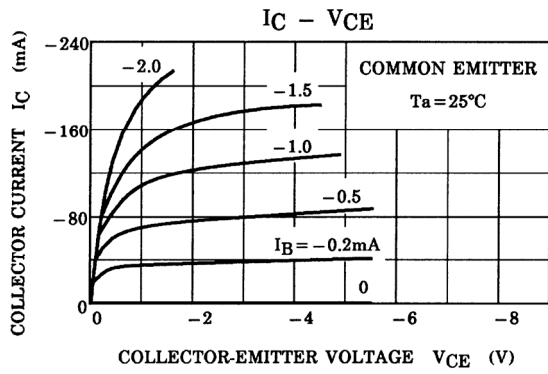
Electrical Characteristics (Ta = 25°C) (Q1, Q2 common)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-0.1	μA
DC current gain	h_{FE} (Note 2)	$V_{CE} = -6\text{ V}, I_C = -2\text{ mA}$	120	—	400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$	—	-0.1	-0.3	V
Transition frequency	f_T	$V_{CE} = -10\text{ V}, I_C = -1\text{ mA}$	80	—	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	4	7	pF

Note 2: h_{FE} classification Y (Y): 120~240, GR (G): 200~400

() marking symbol

(Q1, Q2 common)



*: Total rating

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20070701-EN GENERAL

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