TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

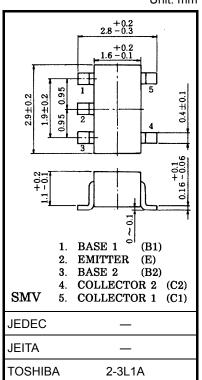
2SA1618

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} : $h_{FE} = 120$ to 400
- Excellent hFE linearity: hFE (IC = -0.1 mA)/ hFE (IC = -2 mA)
 - = 0.95 (typ.)
- Complementary to 2SC4207

Absolute Maximum Ratings (Ta = 25°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	Ι _C	-150	mA	
Base current	Ι _Β	-30	mA	
Collector power dissipation	P _C (Note 1)	300	mW	
Junction temperature	Tj	125	°C	
Storage temperature range	T _{stg}	-55 to 125	°C	



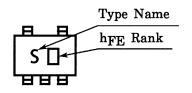
Weight: 0.014 g (typ.)

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.

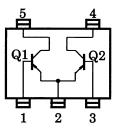
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note 1: Total rating

Marking



Equivalent Circuit (top view)



Start of commercial production 1987-05

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

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = -50 \text{ V}, \text{ I}_{E} = 0$	_	_	-0.1	μA
Emitter cut-off current	I _{EBO}	$V_{EB} = -5 \text{ V}, \text{ I}_{C} = 0$	_	_	-0.1	μA
DC current gain	h _{FE} (Note 2)	$V_{CE} = -6 V, I_C = -2 mA$	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	$V_{CE} = -10 \text{ V}, \text{ I}_{C} = -1 \text{ mA}$	80			MHz
Collector output capacitance	C _{ob}	$V_{CB} = -10 \text{ V}, \text{ I}_{E} = 0, \text{ f} = 1 \text{ MHz}$	_	4	7	pF

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

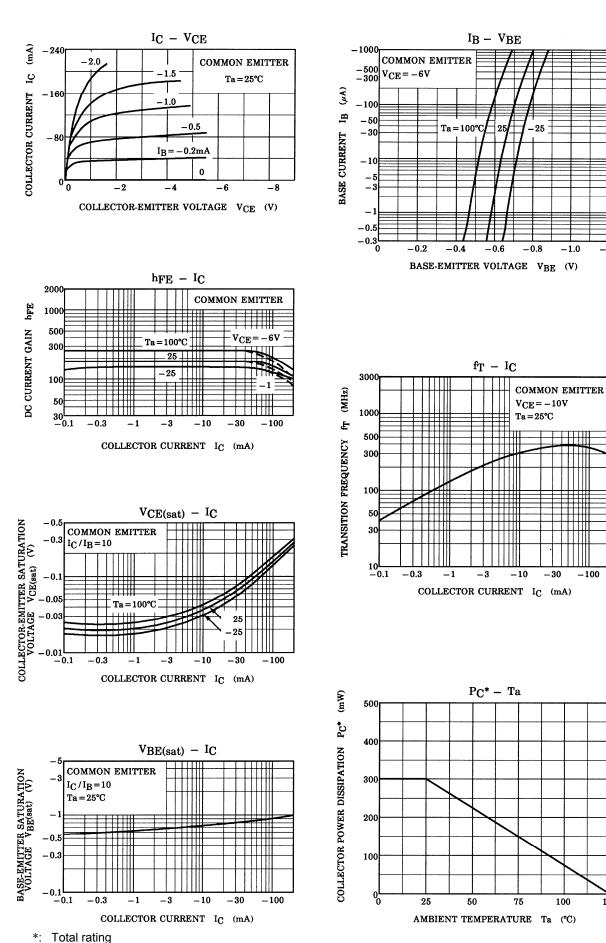
() marking symbol

TOSHIBA

-1.2

-100

(Q1, Q2 common)



125

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