TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

HN4A56JU

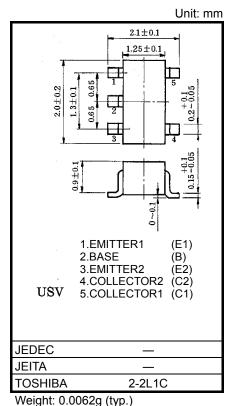
Audio Frequency General Purpose Amplifier Applications

- Small Package (Dual Type)
- High Voltage and High Current
 - : V_{CEO}= -50V, I_C = -150mA (max)
- High h_{FE}
- Excellent h_{FE} Linearity

: $h_{FE} (I_C = -0.1 \text{mA}) / h_{FE} (I_C = -2 \text{mA}) = 0.95 (typ.)$

Absolute Maximum Ratings (Ta = 25°C) (Q1, Q2 Common)

Characteristic	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 *	200	mW	
Junction temperature	Tj	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.

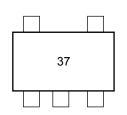
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

*Total rating: Power dissipation per element should not exceed 130mW.

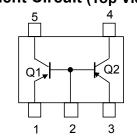
Electrical Characteristics (Ta = 25°C) (Q1,Q2 Common)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}		V_{CB} = -50V, I _E = 0	_	_	-0.1	μA
Emitter cut-off current	I _{EBO}		V _{EB} = -5V, I _C = 0		_	-0.1	μA
DC current gain	h _{FE}		$V_{CE} = -6V, I_C = -2mA$	120		400	
Collector-emitter saturation voltage	V _{CE}	_	I _C = -100mA, I _B = -10mA	_	-0.1	-0.3	V
Transition frequency	f _T		V _{CE} = -10V, I _C = -1mA	60	_	_	MHz
Collector output capacitance	C _{ob}		V _{CB} = –10V, I _E = 0, f = 1MHz	_	4		pF

Marking

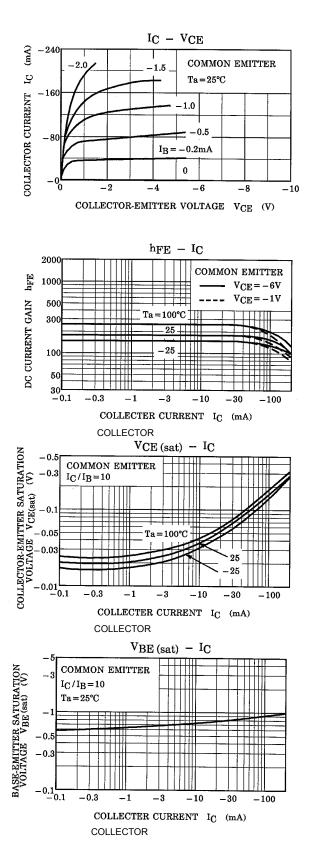


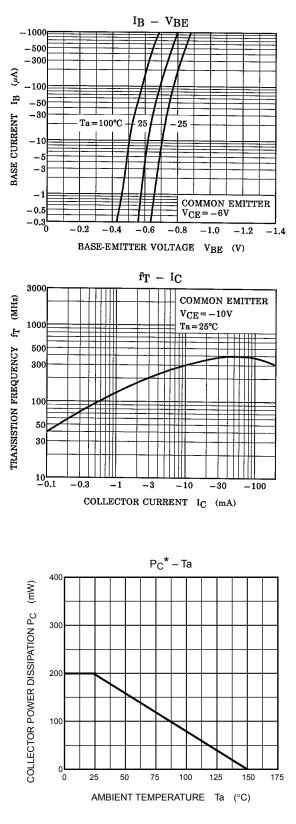
Equivalent Circuit (Top View)



Start of commercial production 2000-09

TOSHIBA





*:Total Rating

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