Unit: mm

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

HN2C01FU

Audio Frequency General Purpose Amplifier Applications

• Small package (dual type)

High voltage and high current : VCEO = 50V, IC = 150mA (max)

• High hfe : $h_{FE} = 120 \sim 400$

• Excellent hFE linearity : hFE (IC = 0.1 mA) / (IC = 2 mA)

= 0.95 (typ.)

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

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V _{CBO}	60	V
Collector-emitter voltage	V _{CEO}	50	V
Emitter-base voltage	V _{EBO}	5	V
Collector current	IC	150	mA
Base current	ΙΒ	30	mA
Collector power dissipation	P _C *	200	mW
Junction temperature	Tj	125	°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.

 2.1 ± 0.1 1.25 ± 0.1 0.65 1.3 ± 0.1 1. EMITTER 1 (E1) 2. EMITTER 2 (E2)3. BASE 2 (B2)4. COLLECTOR 2 (C2)5. BASE 1 (B1) US6 6. COLLECTOR 1 (C1)**JEDEC** EIAJ TOSHIBA 2-2J1B

Weight: 6.8mg

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) (Q1, Q2 Common)

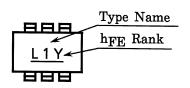
Characteristic	Symbol	Test Circuit	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	_	V _{CB} = 60V, I _E = 0	_	_	0.1	μΑ
Emitter cut-off current	I _{EBO}	_	$V_{EB} = 5V, I_C = 0$	_	_	0.1	μΑ
DC current gain	h _{FE} (Note)	_	V_{CE} = 6V, I_C = 2mA	120	_	400	-
Collector-emitter saturation voltage	V _{CE} (sat)	_	I _C = 100mA, I _B =10mA	_	0.1	0.25	V
Transition frequency	f _T	_	V _{CE} = 10V, I _C = 1mA	80	_	_	MH_Z
Collector output capacitance	C _{ob}	_	$V_{CB} = 10V, I_E = 0, f = 1MH_Z$	_	2	3.5	pF

Note: hFE classification

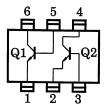
Y(Y): 120~240, GR(G): 200~400

() marking symbol

Marking

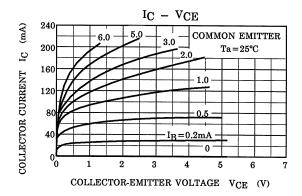


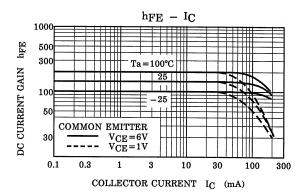
Equivalent Circuit (Top View)

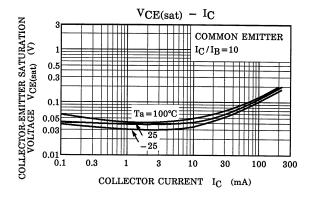


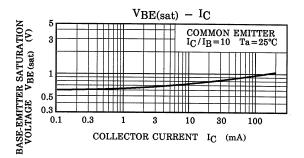
^{*} Total rating

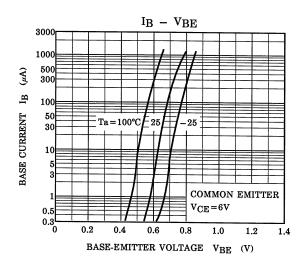
(Q1, Q2 Common)

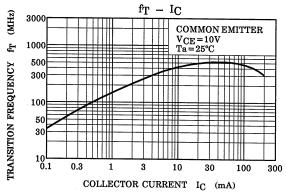


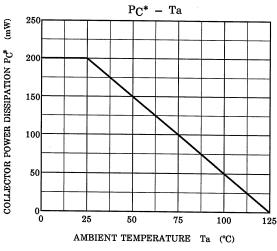












*: Total Rating

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20070701-EN GENERAL

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