TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

HN2C01FE

Audio Frequency General Purpose Amplifier Applications

Small package (dual type)

High voltage and high current : V_{CEO} = 50V, I_C = 150mA (max)

• High hee : hee = 120~400

• Excellent h_{FE} linearity : $h_{FE} (I_C = 0.1 \text{mA}) / (I_C = 2 \text{mA})$

= 0.95 (typ.)

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

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	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	Pc*	100	mW
Junction temperature	Tj	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

Weight: 3mg

temperature/current/voltage, etc.) are within the absolute maximum ratings.

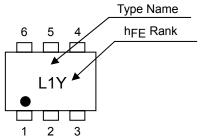
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

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

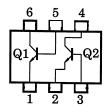
Characteristic	Symbol	Test Circuit	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	_	V _{CB} = 60V, I _E = 0	_	_	0.1	μΑ
Emitter cut-off current	I _{EBO}	_	V _{EB} = 5V, I _C = 0	_	_	0.1	μA
DC current gain	h _{FE} (Note)	_	V _{CE} = 6V, I _C = 2mA	120	_	400	_
Collector-emitter saturation 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	60	_	_	MHz
Collector output capacitance	C _{ob}	_	V _{CB} = 10V, I _E = 0, f = 1MH _Z	_	2	_	pF

Note: hFE classification Y(Y): 120~240, GR(G): 200~400 () marking symbol

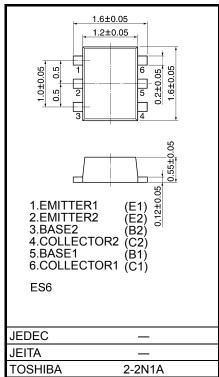
Marking



Equivalent Circuit (Top View)

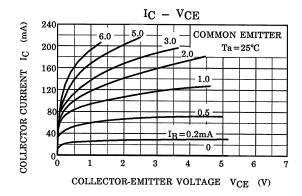


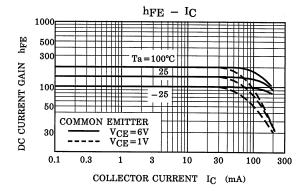
Unit: mm

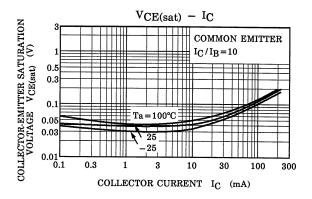


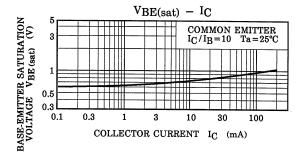
^{*} Total rating

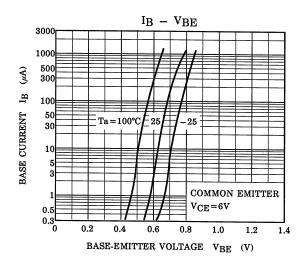
(Q1, Q2 Common)

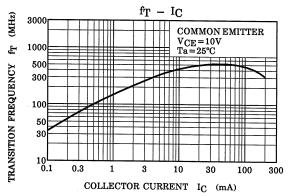


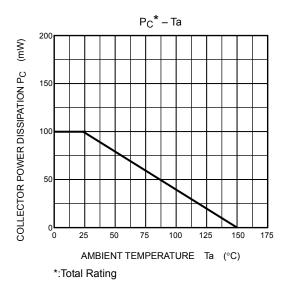












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