TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA1162

Audio Frequency General Purpose Amplifier Applications

- High voltage and high current: $V_{CEO} = -50 \text{ V}, \text{ IC} = -150 \text{ mA} \text{ (max)}$
- Excellent hFE linearity: hFE (IC = -0.1 mA)/hFE (IC = -2 mA)

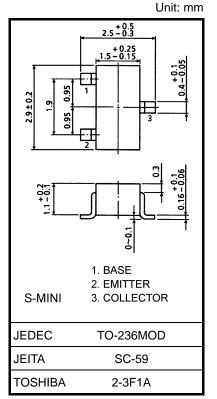
= 0.95 (typ.)

- High hFE: hFE = 70~400
- Low noise: NF = 1dB (typ.), 10dB (max)
- Complementary to 2SC2712
- Small package

Absolute Maximum Ratings (Ta = 25°C)

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	IC	-150	mA
Base current	Ι _Β	-30	mA
Collector power dissipation	PC	150	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. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.



Weight: 0.012 g (typ.)

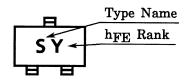
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Electrical Characteristics (Ta = 25°C)

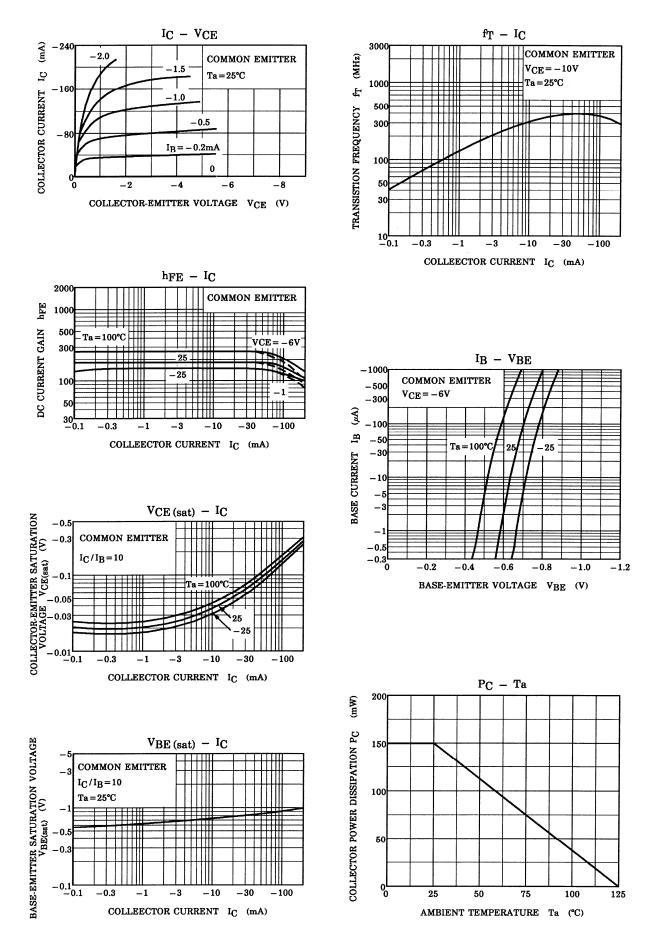
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = -50 \text{ V}, I_E = 0$	—	_	-0.1	μΑ
Emitter cut-off current	I _{EBO}	$V_{EB} = -5 \text{ V}, \text{ I}_{C} = 0$	_	_	-0.1	μΑ
DC current gain	h _{FE} (Note)	$V_{CE} = -6 \text{ V}, \text{ I}_{C} = -2 \text{ mA}$	70	_	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	рF
Noise figure	NF	V_{CE} = -6 V, I_{C} = -0.1 mA, f = 1 kHz, Rg = 10 k\Omega,	_	1.0	10	dB

Note: hFE classification O (O): 70~140, Y (Y): 120~240, GR (G): 200~400, () marking symbol

Marking



TOSHIBA



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