TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC2458

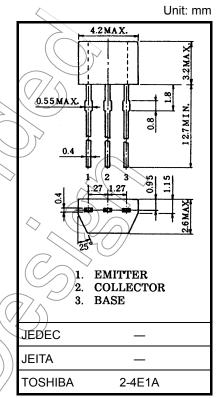
Audio Amplifier Applications

•	High	current	capability:	IC =	150	mA	(max)	1
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- High DC current gain: $h_{FE} = 70 \sim 700$
- Excellent hFE linearity: $h_{FE} (I_C = 0.1 \text{ mA})/h_{FE} (I_C = 2 \text{ mA}) = 0.95 (typ.)$
- Low noise: NF (2) = 1dB (typ.), 10dB (max)
- Complementary to 2SA1048.
- 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	\checkmark
Emitter-base voltage	V _{EBO}	5	∨ v
Collector current	Ι _C	150	mA
Base current	I _B	50	mA
Collector power dissipation	Pc	200	<u>∕</u> ⁄mW
Junction temperature	Тј	125	ಿ೦
Storage temperature range	Tstg	-55~125	°C



Weight: 0.13 g (typ.)

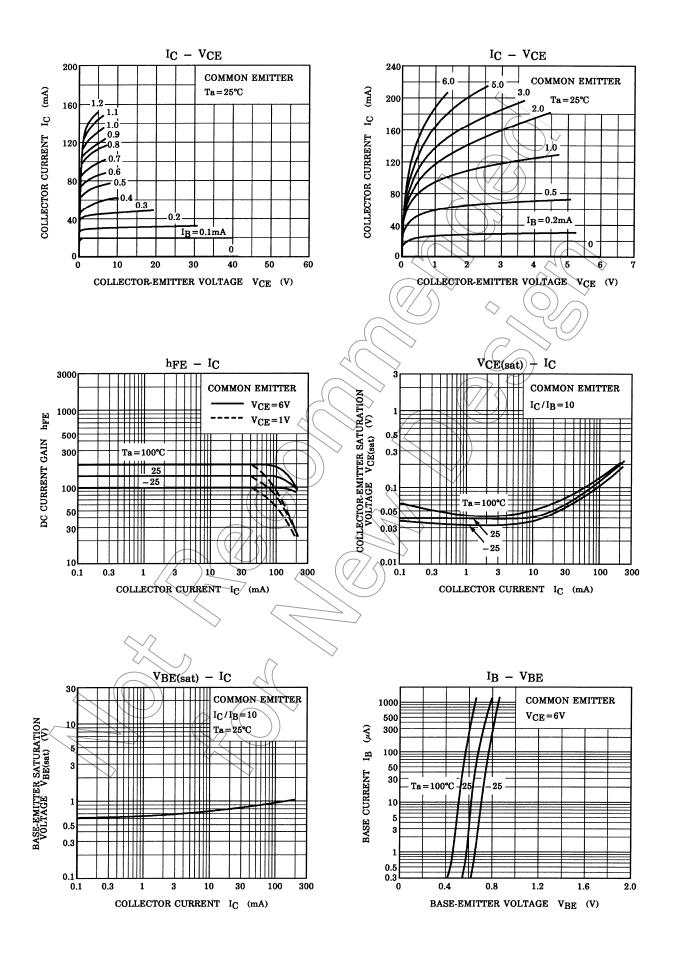
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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).

Electrical Characteristics (Ta = 25°C)

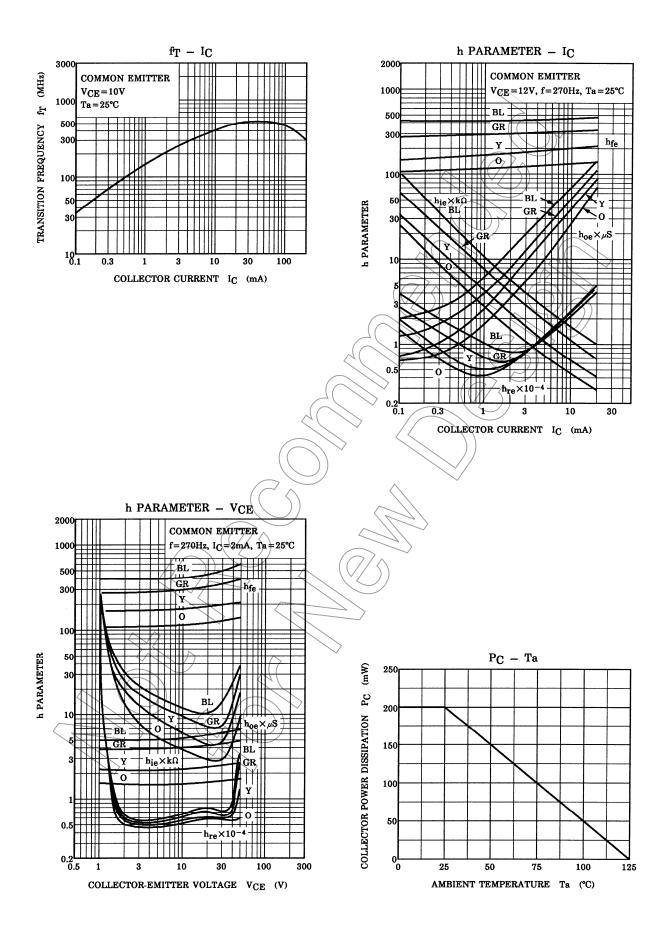
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	Ісво	$V_{CB} = 50 \text{ V}, \text{ I}_{E} = 0$	_		0.1	μA
Emitter cut-off current	IEBO	$V_{EB} = 5 V, I_{C} = 0$	_	_	0.1	μA
DC current gain	hFE (Note)	$V_{CE} = 6 \text{ V}, \text{ I}_{C} = 2 \text{ mA}$	70	_	700	
Collector-emitter saturation voltage	V _{CE (sat)}	$I_{C} = 100 \text{ mA}, I_{B} = 10 \text{ mA}$		0.1	0.25	V
Transition frequency	f _T	$V_{CE} = 10 \text{ V}, I_{C} = 1 \text{ mA}$	80			MHz
Collector output capacitance	C _{ob}	$V_{CB} = 10 \text{ V}, \text{ I}_{E} = 0, \text{ f} = 1 \text{ MHz}$		2.0	3.5	pF
Noise figure	NF	V_{CE} = 6 V, I_C = 0.1 mA, f = 1 kHz, R_g = 10 k Ω		1.0	10	dB

Note: hFE classification O: 70~140, Y: 120~240, GR: 200~400, BL: 350~700

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