TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA1048(L)

Audio Frequency Amplifier Applications Low Noise Audio Frequency Applications

• Small package.

• High voltage: $V_{CEO} = -50 \text{ V (min)}$

• High hfe: hfe = $70 \sim 400$

• Excellent hFE linearity: hFE (IC = -0.1 mA)/hFE (IC = -2 mA) = 0.95 (typ.)

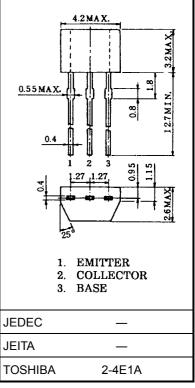
• Low noise: NF = 0.2dB (typ.), 3dB (max)

• Complementary to 2SC2458 (L).

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	ΙΒ	-50	mA
Collector power dissipation	P _C	200	mW
Junction temperature	Tj	125	°C
Storage temperature range	T _{stg}	-55~125	°C

Unit: mm



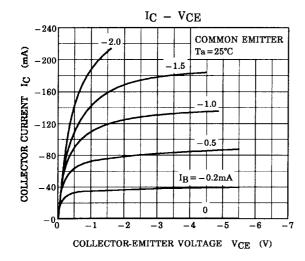
Weight: 0.13 g (typ.)

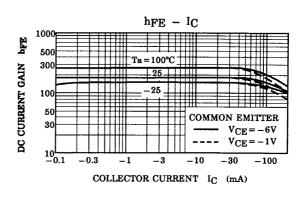
Electrical Characteristics (Ta = 25°C)

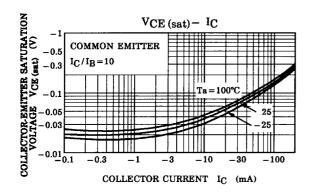
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = -50 \text{ V}, I_E = 0$	_	_	-0.1	μΑ
Emitter cut-off current	I _{EBO}	$V_{EB} = -5 \text{ V}, I_{C} = 0$	_	_	-0.1	μΑ
DC current gain	h _{FE} (Note)	$V_{CE} = -6 \text{ V}, I_C = -2 \text{ mA}$	70	_	400	
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	pF
Noise figure	NF (1)	$\begin{aligned} &V_{CE} = -6 \text{ V, I}_{C} = -0.1 \text{ mA, f} = 100 \text{ Hz,} \\ &R_{G} = 10 \text{ k}\Omega \end{aligned}$		0.5	6	dB
	NF (2)	$\begin{aligned} &V_{CE} = -6 \text{ V, I}_{C} = -0.1 \text{ mA, f} = 1 \text{ kHz,} \\ &R_{G} = 10 \text{ k}\Omega \end{aligned}$		0.2	3	

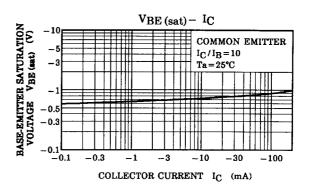
Note: hFE classification O: 70~140, Y: 120~240, GR: 200~400

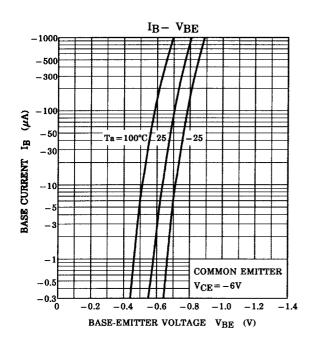
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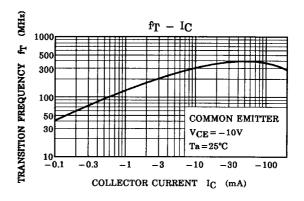


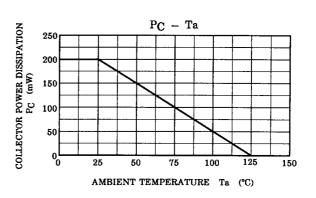












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