

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

# 2SC4944

## Audio Frequency General Purpose Amplifier Applications

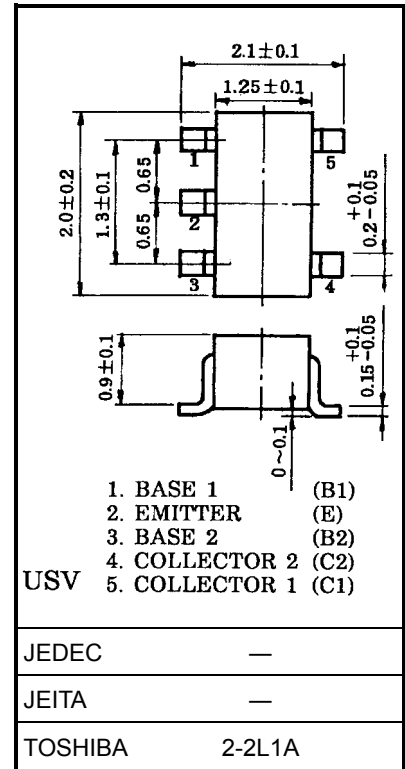
- Small package (dual type)
- High voltage and high current:  $V_{CE0} = 50\text{ V}$ ,  $I_C = 150\text{ mA}$  (max)
- High  $h_{FE}$ :  $h_{FE} = 120\sim 400$
- Excellent  $h_{FE}$  linearity:  $h_{FE}(I_C = 0.1\text{ mA})/h_{FE}(I_C = 2\text{ mA}) = 0.95$  (typ.)
- Complementary to 2SA1873

### Maximum Ratings ( $T_a = 25^\circ\text{C}$ ) (Q1, Q2 common)

Characteristics	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	$I_C$	150	mA
Base current	$I_B$	30	mA
Collector power dissipation	$P_C$ (Note 1)	200	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55~125	$^\circ\text{C}$

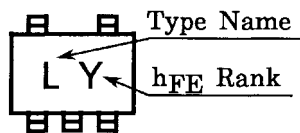
Note 1: Total rating

Unit: mm

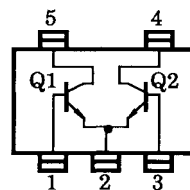


Weight: 6.2 mg (typ.)

### Marking



### Equivalent Circuit (top view)



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

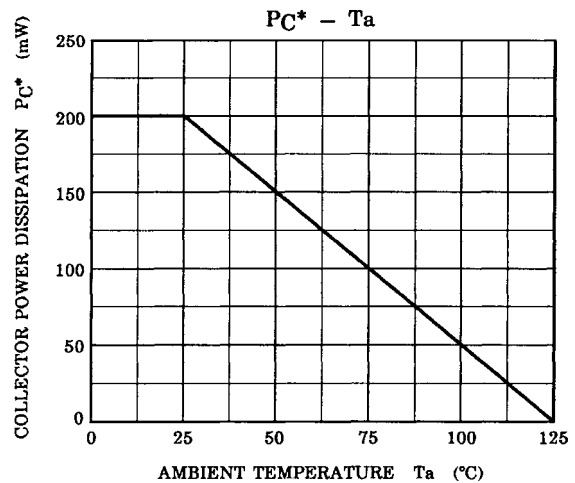
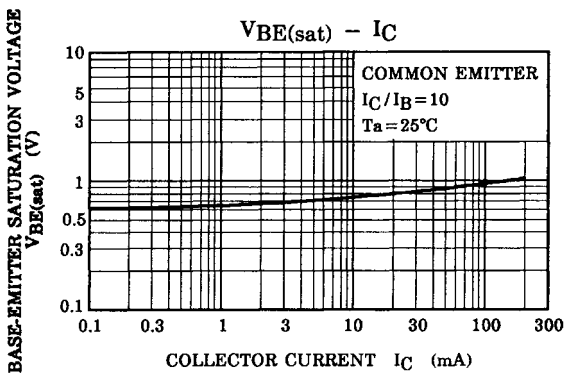
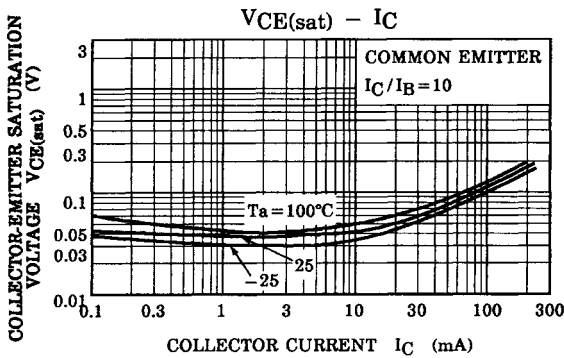
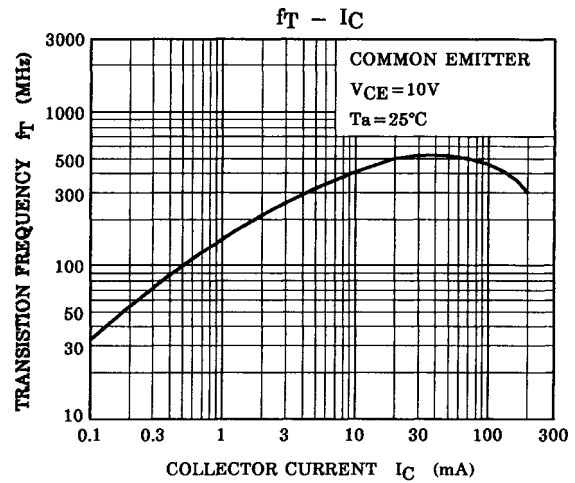
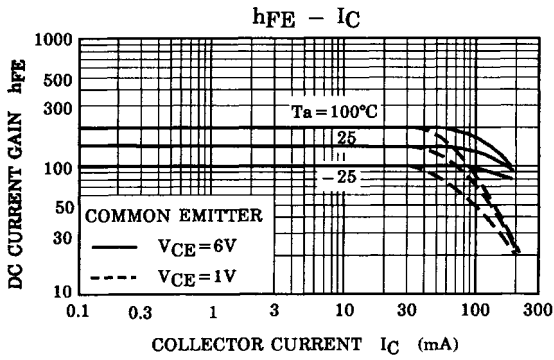
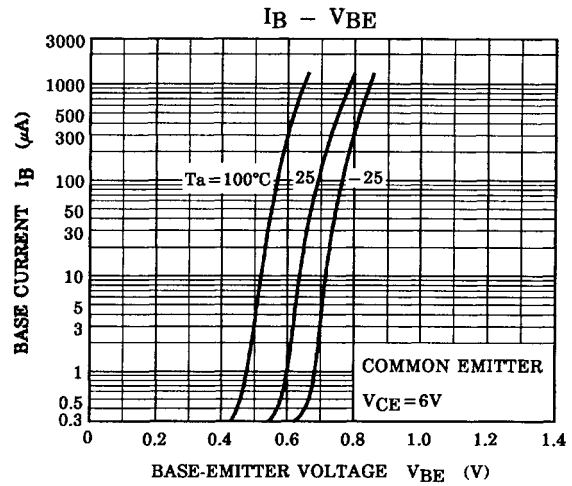
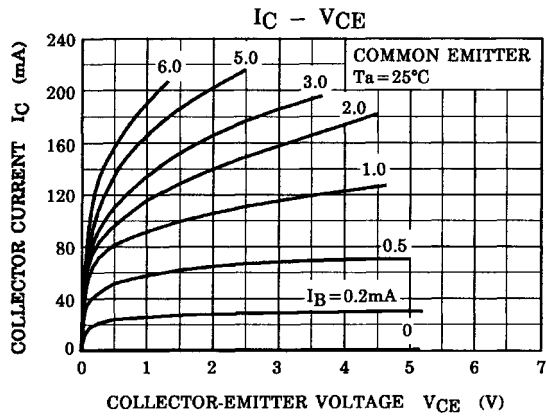
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 60\text{ V}, I_E = 0$	—	—	0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	0.1	$\mu\text{A}$
DC current gain	$h_{FE}$ (Note 2)	$V_{CE} = 6\text{ V}, I_C = 2\text{ mA}$	120	—	400	
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	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	2	3.5	pF

Note 2:  $h_{FE}$  classification

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

( ) Marking symbol

(Q1, Q2, common)



\*: Total rating

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