TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

# 2SC4738F

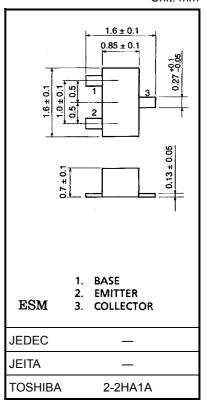
# Audio Frequency General Purpose Amplifier Applications

Unit: mm

- High voltage and high current:  $V_{CEO} = 50 \text{ V}$ ,  $I_{C} = 150 \text{ mA}$  (max)
- Excellent hFE linearity: hFE (IC = 0.1 mA)/hFE (IC = 2 mA) = 0.95 (typ.)
- High hFE: hFE =  $120 \sim 400$
- Complementary to 2SA1832F
- · Small package

### Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	60	V
Collector-emitter voltage	V <sub>CEO</sub>	50	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	150	mA
Base current	Ι <sub>Β</sub>	30	mA
Collector power dissipation	P <sub>C</sub>	100	mW
Junction temperature	Tj	125	°C
Storage temperature range	T <sub>stg</sub>	-55~125	°C



Weight: 2.3 mg (typ.)

## **Electrical Characteristics (Ta = 25°C)**

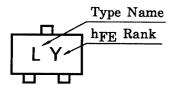
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 60 V, I <sub>E</sub> = 0	_	_	0.1	μА
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0			0.1	μΑ
DC current gain	h <sub>FE</sub> (Note)	V <sub>CE</sub> = 6 V, I <sub>B</sub> = 2 mA	120		400	
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$		0.1	0.25	٧
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 1 mA	80	_	_	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz	—	2.0	3.5	pF

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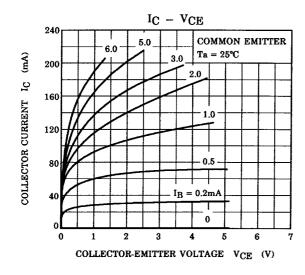
Note: hFE classification Y (Y): 120~240, GR (G): 200~400

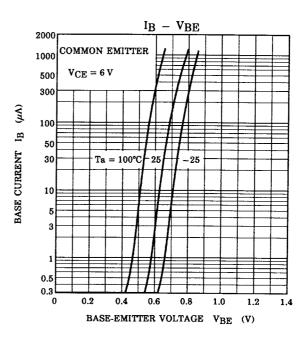
( ) marking symbol

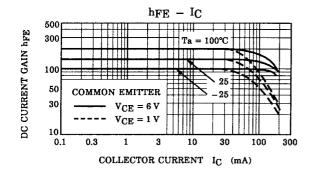
### **Marking**

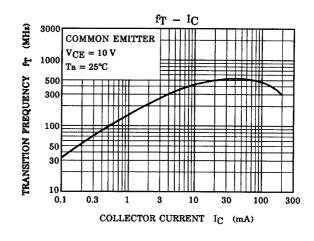


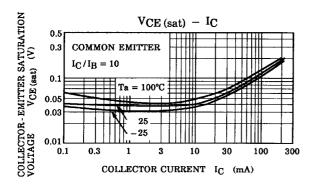
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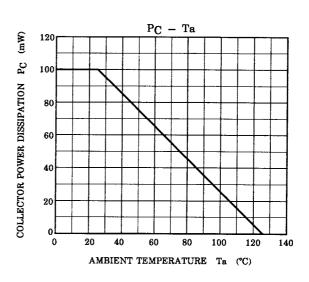


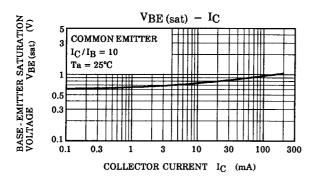












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