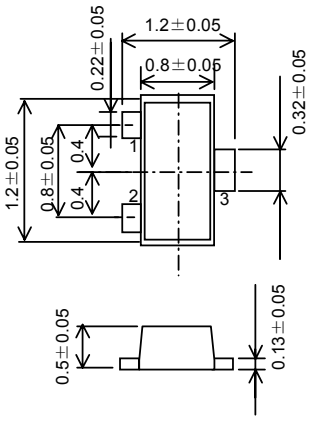
TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC4738FV

Audio Frequency General Purpose Amplifier Applications

- High Voltage: V_{CEO} = 50 V
- High Current: I_C = 150 mA (max)
- High h_{FE}: h_{FE} = 120 ~ 400
- Excellent h_{FE} Linearity
  : h_{FE} (I_C = 0.1 mA)/h_{FE} (I_C = 2 mA) = 0.95 (typ.)
- Complementary to 2SA1832FV

Unit: mm



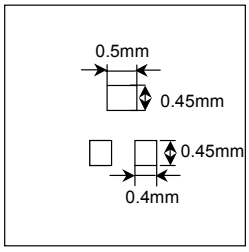
VESM	1.BASE 2.EMITTER 3.COLLECTOR
JEDEC	—
JEITA	—
TOSHIBA	—

Weight: 0.0015g (typ.)

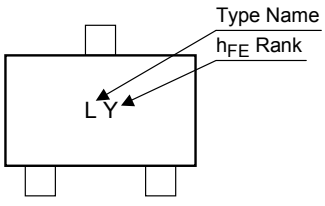
Maximum Ratings (Ta = 25°C)

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	150	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	−55 ~ 150	°C

* : Mounted on FR4 board (25.4 mm × 25.4 mm × 1.6mmt)



Marking

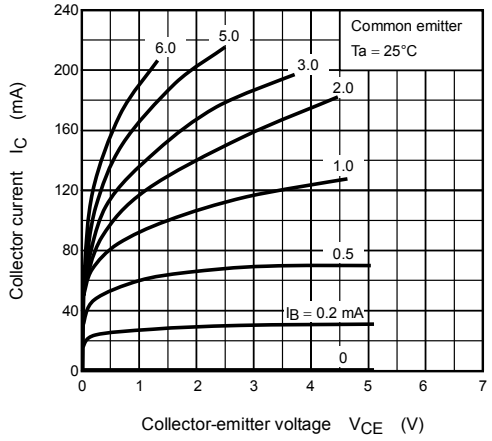


Electrical Characteristics (Ta = 25°C)

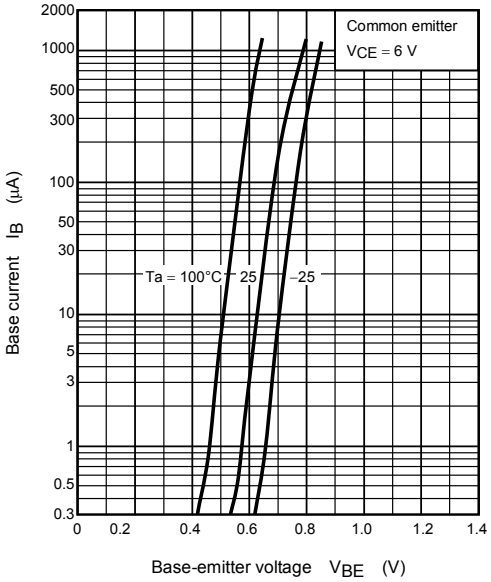
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 60 V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 5 V, I_C = 0	—	—	0.1	μA
DC current gain	h_{FE} (Note)	V_{CE} = 6 V, I_C = 2 mA	120	—	400	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 100 mA, I_B = 10 mA	—	0.1	0.25	V
Transition frequency	f_T	V_{CE} = 10 V, I_C = 1 mA	80	—	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	—	2.0	—	pF

Note: h_{FE} Classification Y (Y): 120 ~ 240, GR (G): 200 ~ 400
( ) Marking symbol

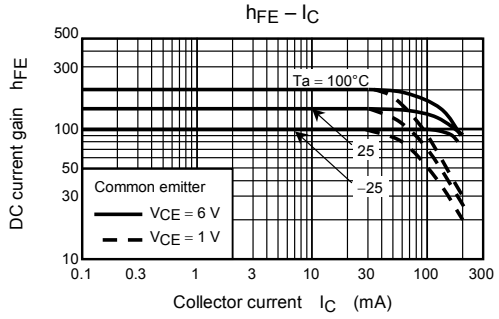
$I_C - V_{CE}$



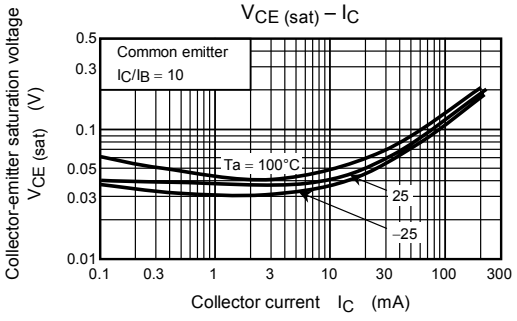
$I_B - V_{BE}$



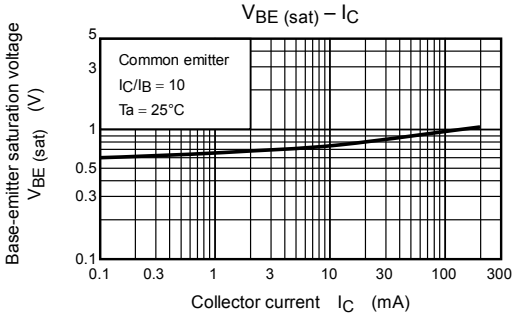
$h_{FE} - I_C$



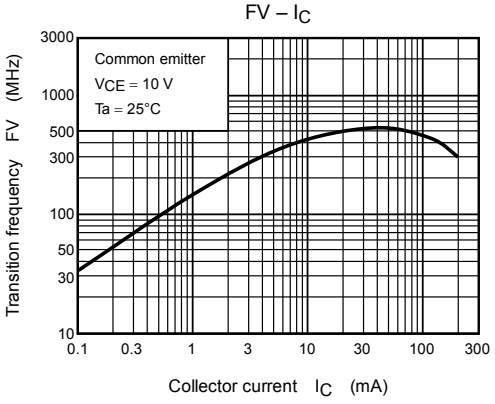
$V_{CE\ (sat)} - I_C$



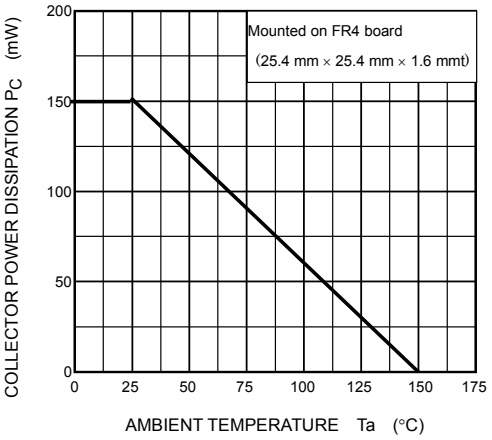
$V_{BE\ (sat)} - I_C$



$f_V - I_C$



$P_C - Ta$



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