

TOSHIBA Transistor Silicon NPN Epitaxial Type

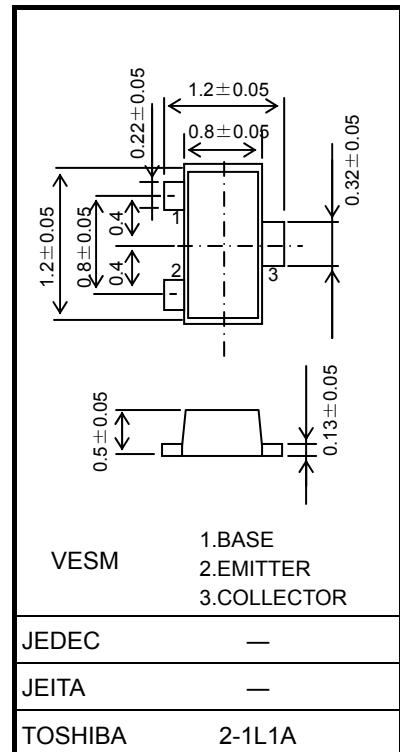
2SC5376FV

Audio Frequency General Purpose Amplifier Applications

For Muting and Switching Applications

Unit: mm

- Low Collector Saturation Voltage: $V_{CE}(\text{sat})$ (1) = 15 mV (typ.)
@ $I_C = 10 \text{ mA}/I_B = 0.5 \text{ mA}$
- High Collector Current: $I_C = 400 \text{ mA}$ (max)

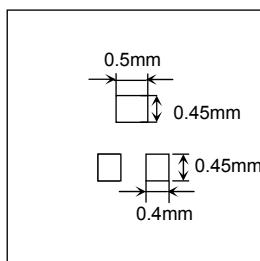
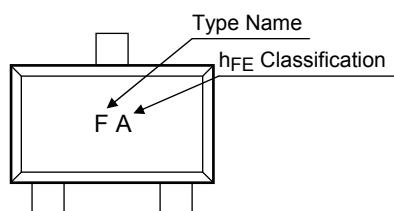


Weight: 1.5 mg (typ.)

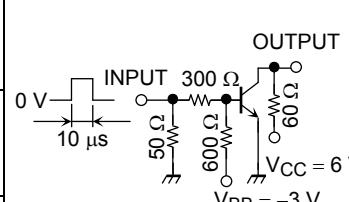
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

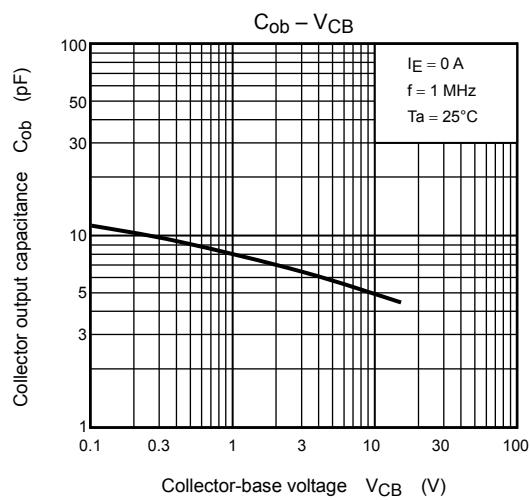
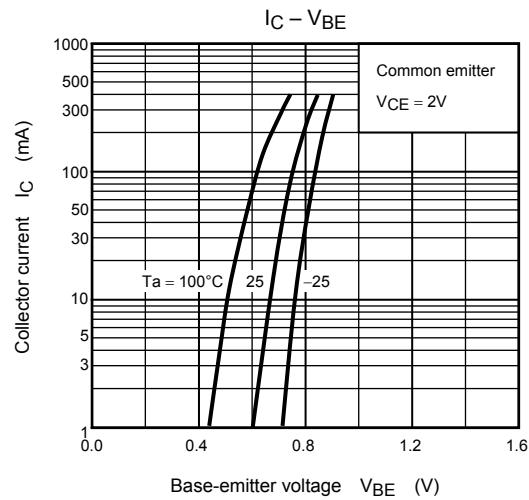
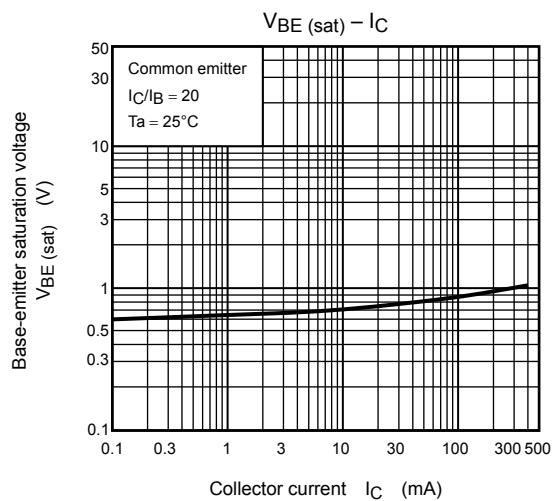
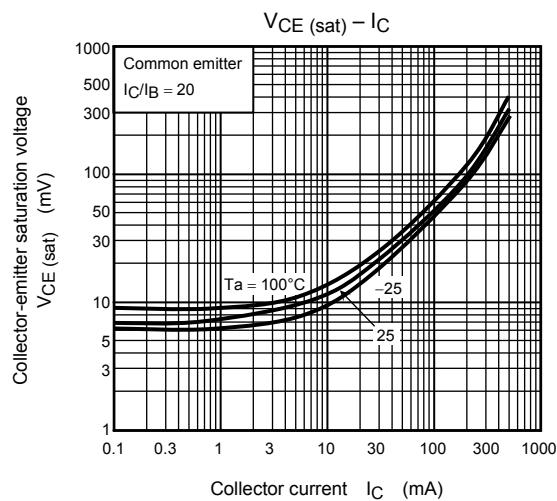
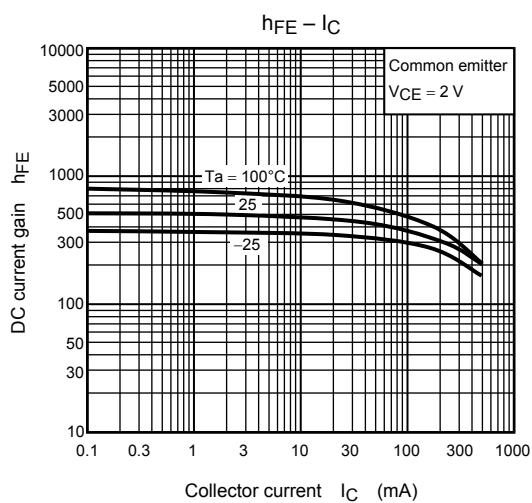
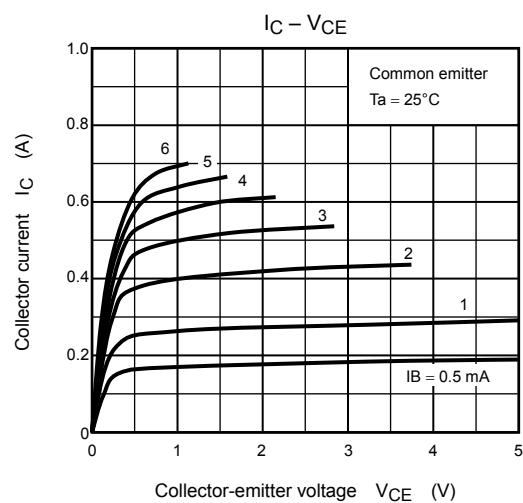
* : Mounted on FR4 board (25.4 mm × 25.4 mm × 1.6mm)

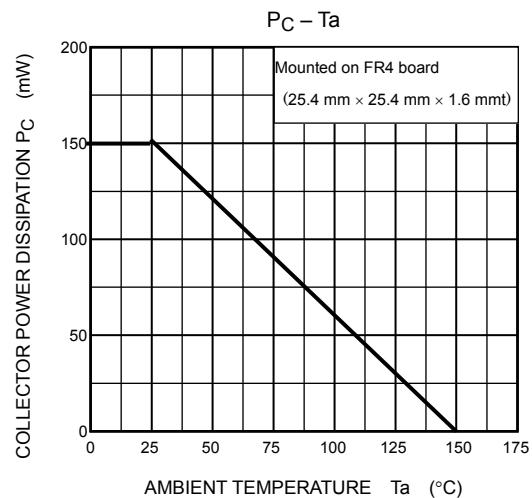
**Marking**

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit	
Collector cut-off current	I _{CBO}	V _{CB} = 15 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 (Note)	h _{FE}	V _{CE} = 2 V, I _C = 10 mA	300	—	1000		
Collector-emitter saturation voltage	V _{CE} (sat) (1)	I _C = 10 mA, I _B = 0.5 mA	—	15	30	mV	
	V _{CE} (sat) (2)	I _C = 200 mA, I _B = 10 mA	—	110	250	mV	
Base-emitter voltage	V _{BE} (sat)	I _C = 200 mA, I _B = 10 mA	—	0.87	1.2	V	
Transition frequency	f _T	V _{CE} = 2 V, I _C = 10 mA	80	130	—	MHz	
Collector output capacitance	C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	4.2	—	pF	
Collector-emitter on resistance	R _{on}	I _B = 1 mA, V _{in} = 1 V _{rms} , f = 1 kHz	—	0.9	—	Ω	
Switching time	Turn-on time	t _{on}	 Duty Cycle ≤ 2% IB1 = -IB2 = 5 mA	—	85	—	ns
	Storage time	t _{stg}		—	170	—	ns
	Fall time	t _f		—	40	—	ns

Note: h_{FE} Classification A: 300 ~ 600, B: 500 ~ 1000





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