

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC2712

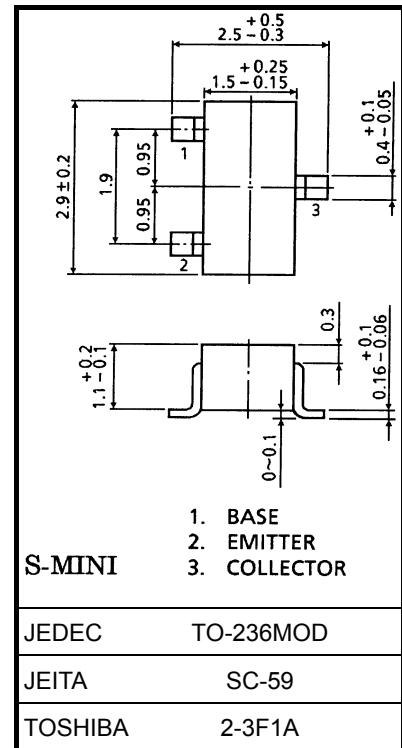
Audio Frequency General Purpose Amplifier Applications

Unit: mm

- High voltage and high current: $V_{CEO} = 50$ V, $I_C = 150$ mA (max)
- Excellent hFE linearity: $hFE (I_C = 0.1$ mA)/ $hFE (I_C = 2$ mA) = 0.95 (typ.)
- High hFE : $hFE = 70$ to 700
- Low noise: $NF = 1$ dB (typ.), 10dB (max)
- Complementary to 2SA1162
- Small package

Absolute Maximum Ratings (Ta = 25°C)

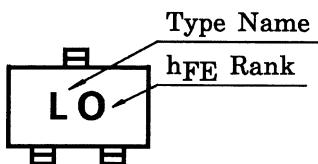
Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	150	mA
Base current	I_B	30	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	-55 to 125	°C



Weight: 0.012 g (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.).

Marking

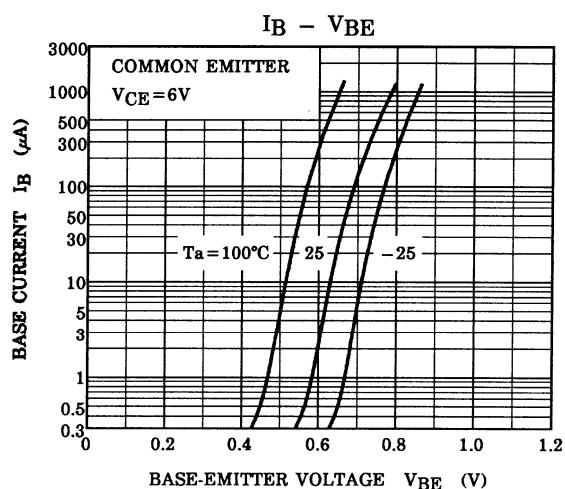
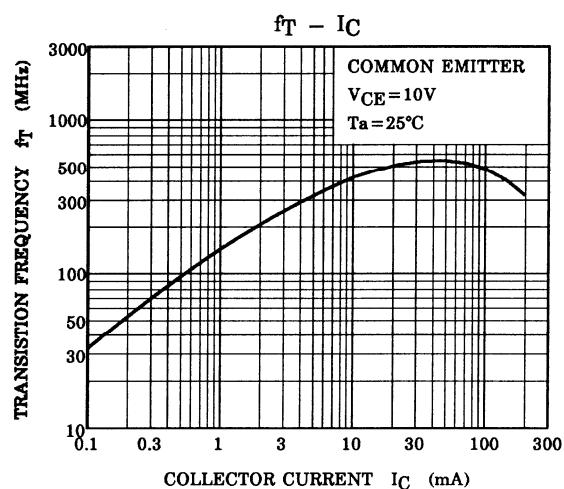
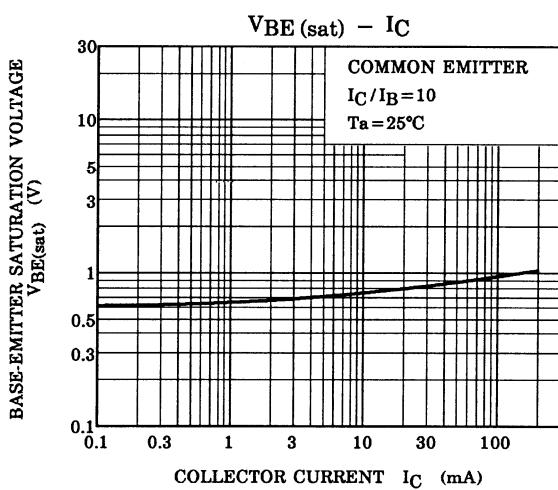
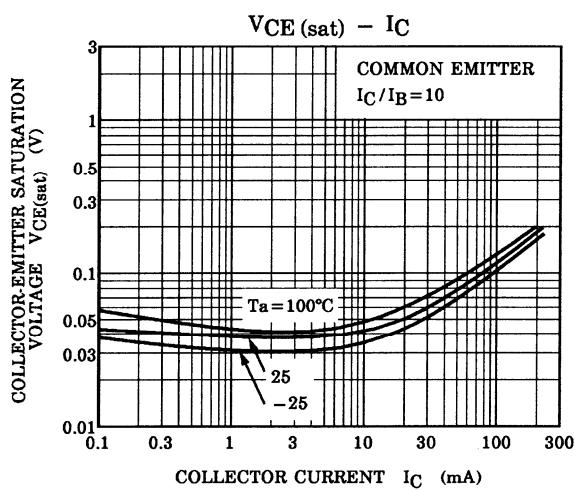
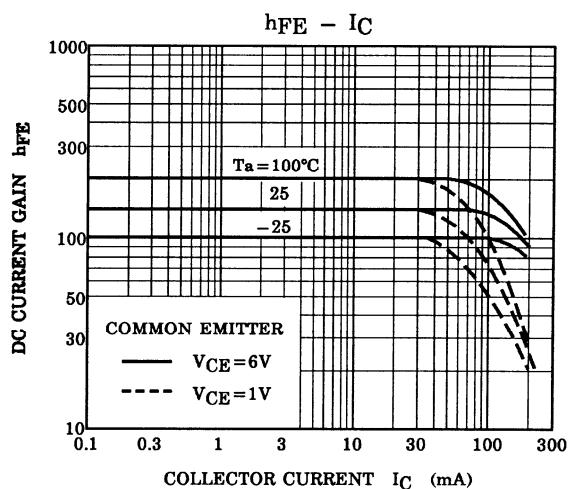
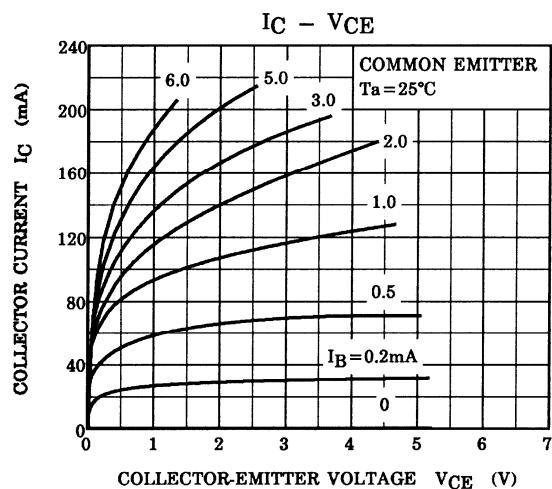
Start of commercial production
1982-10

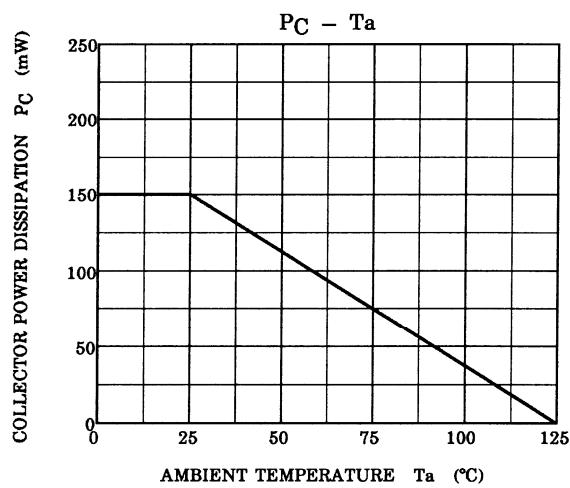
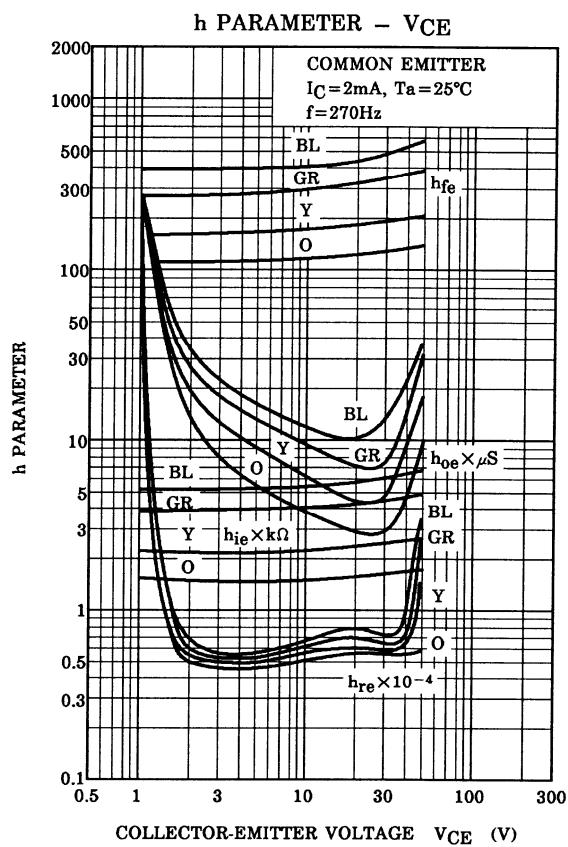
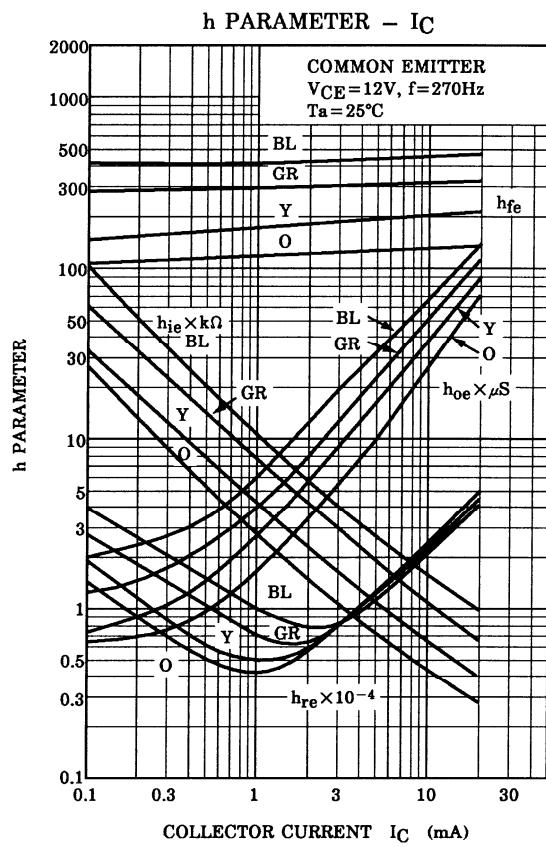
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 60 \text{ V}$, $I_E = 0$	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5 \text{ V}$, $I_C = 0$	—	—	0.1	μA
DC current gain	h_{FE} (Note)	$V_{CE} = 6 \text{ V}$, $I_C = 2 \text{ mA}$	70	—	700	
Collector-emitter saturation voltage	$V_{CE(\text{sat})}$	$I_C = 100 \text{ mA}$, $I_B = 10 \text{ mA}$	—	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}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$	—	2.0	3.5	pF
Noise figure	NF	$V_{CE} = 6 \text{ V}$, $I_C = 0.1 \text{ mA}$, $f = 1 \text{ kHz}$, $R_g = 10 \text{ k}\Omega$	—	1.0	10	dB

Note: h_{FE} classification O (O): 70 to 140, Y (Y): 120 to 240, GR (G): 200 to 400, BL (L): 350 to 700

() marking symbol





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