

TOSHIBA Transistor Silicon PNP Epitaxial (PCT process)

# 2SA1182

Audio Frequency Low Power Amplifier Applications

Driver Stage Amplifier Applications

Switching Applications

- Excellent  $h_{FE}$  linearity:  $h_{FE(2)} = 25$  (min)  
at  $V_{CE} = -6$  V,  $I_C = -400$  mA
- Complementary to 2SC2859.

## Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-35	V
Collector-emitter voltage	$V_{CEO}$	-30	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-500	mA
Base current	$I_B$	-50	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	125	°C
Storage temperature range	$T_{stg}$	-55 to 125	°C

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.

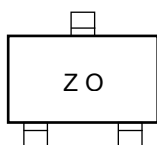
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

## Electrical Characteristics (Ta = 25°C)

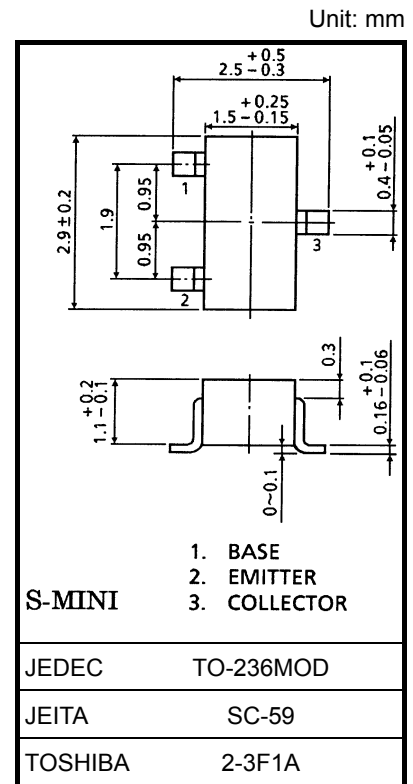
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = -35$ V, $I_E = 0$	—	—	-0.1	μA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5$ V, $I_C = 0$	—	—	-0.1	μA
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = -1$ V, $I_C = -100$ mA	70	—	400	—
	$h_{FE(2)}$ (Note)	$V_{CE} = -6$ V, $I_C = -400$ mA	25	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100$ mA, $I_B = -10$ mA	—	-0.1	-0.25	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = -1$ V, $I_C = -100$ mA	—	-0.8	-1.0	V
Transition frequency	$f_T$	$V_{CE} = -6$ V, $I_C = -20$ mA	—	200	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -6$ V, $I_E = 0$ , $f = 1$ MHz	—	13	—	pF

Note:  $h_{FE(1)}$  classification O(O): 70 to 140, Y(Y): 120 to 240, GR(G): 200 to 400 ( ) Marking Symbol  
 $h_{FE(2)}$  classification O: 25 (min), Y: 40 (min), GR: 70 (min)

## Marking

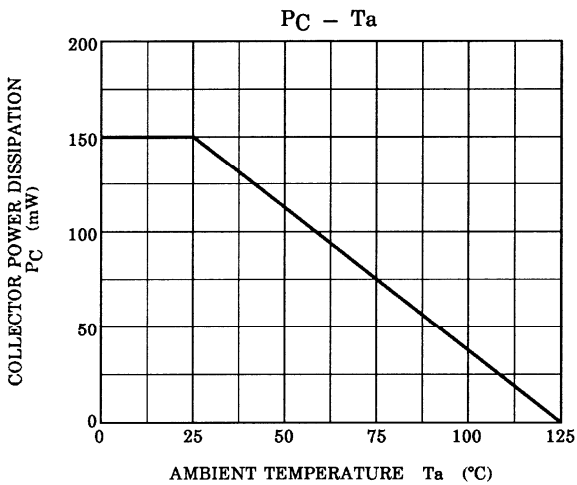
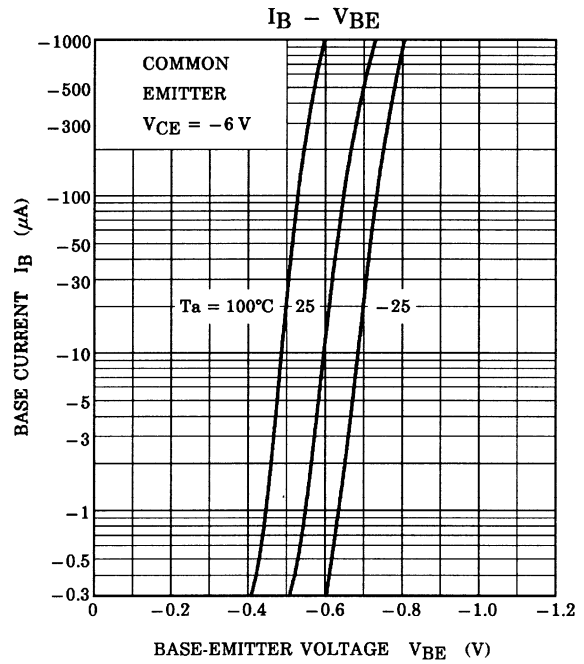
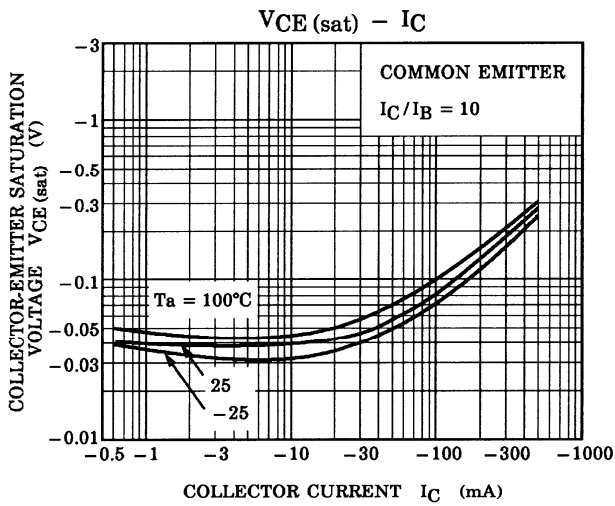
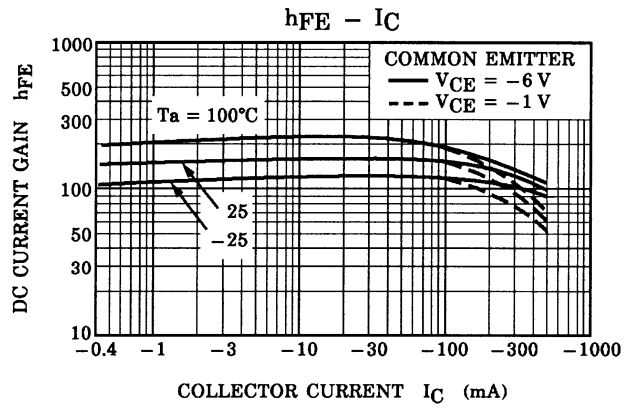
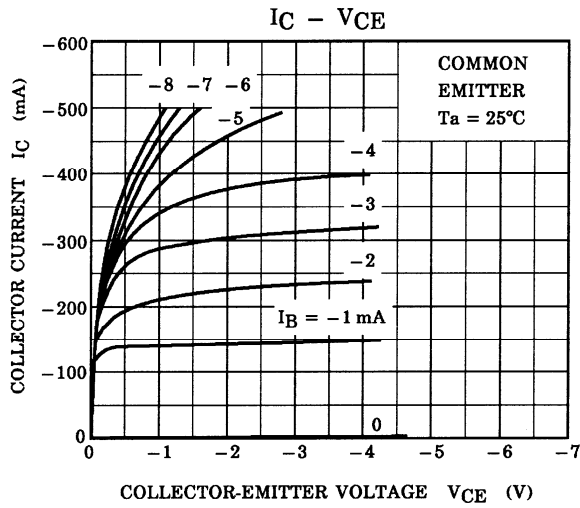


Z: Type Name  
 O:  $h_{FE}$  Rank



Weight: 0.012 g (typ.)

Start of commercial production  
 1982-12



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