ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	2SA1587-GR,LF
Manufacturer:	Toshiba Semiconductor and Storage
Package:	SC-70, SOT-323
Availability:	Please confirm with sales

Product Page:

https://antrexco.com/product/details/toshiba-semiconductor-and-storage/2sa1587-gr-lf.html

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Contact Information

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Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

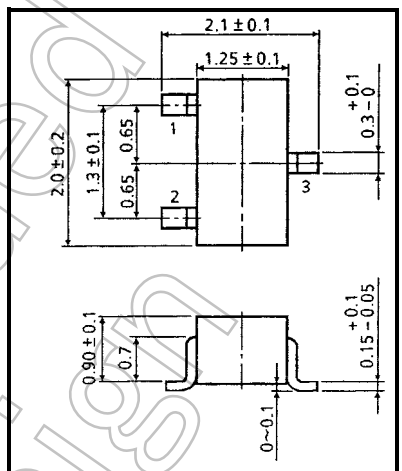
2SA1587

Audio Frequency General Purpose Amplifier Applications

- AEC-Q101 Qualified (Note1)
- High voltage: V_{CEO} = −120 V
- Excellent h_{FE} linearity: h_{FE} (I_C = −0.1 mA)/h_{FE} (I_C = −2 mA) = 0.95 (typ.)
- High h_{FE}: h_{FE} = 200 to 700
- Low noise: NF = 1dB (typ.), 10dB (max)
- Complementary to 2SC4117
- Small package

Note1: For detail information, please contact our sales.

Unit: mm



1. BASE
2. EMITTER
3. COLLECTOR

USM

JEDEC	—
JEITA	SC-70
TOSHIBA	2-2E1A

Weight: 0.006 g (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	−120	V
Collector-emitter voltage	V_{CEO}	−120	V
Emitter-base voltage	V_{EBO}	−5	V
Collector current	I_C	−100	mA
Base current	I_B	−20	mA
Collector power dissipation	P_C (Note 2, 4)	200	mW
	P_C (Note 3)	100	
Junction temperature	T_j (Note 2)	150	°C
	T_j (Note 3)	125	
Storage temperature range	T_{stg} (Note 2)	−55 to 150	°C
	T_{stg} (Note 3)	−55 to 125	

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).

Note 2: For devices with the ordering part number ending in LF(T.
Note 3: For devices with the ordering part number in other than LF(T.
Note 4: Mounted on a FR4 board. (25.4 mm × 25.4 mm × 1.6 mm, Cu pad: 0.5 mm^2 × 3)

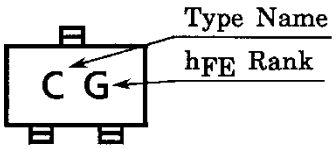
Start of commercial production
1987-01

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = −120 V, I_E = 0 A	—	—	−0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = −5 V, I_C = 0 A	—	—	−0.1	μA
DC current gain	h_{FE} (Note)	V_{CE} = −6 V, I_C = −2 mA	200	—	700	—
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = −10 mA, I_B = −1 mA	—	—	−0.3	V
Transition frequency	f_T	V_{CE} = −6 V, I_C = −1 mA	—	100	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = −10 V, I_E = 0 A, f = 1 MHz	—	4	—	pF
Noise figure	NF	V_{CE} = −6 V, I_C = −0.1 mA, f = 1 kHz, R_G = 10 kΩ	—	1.0	10	dB

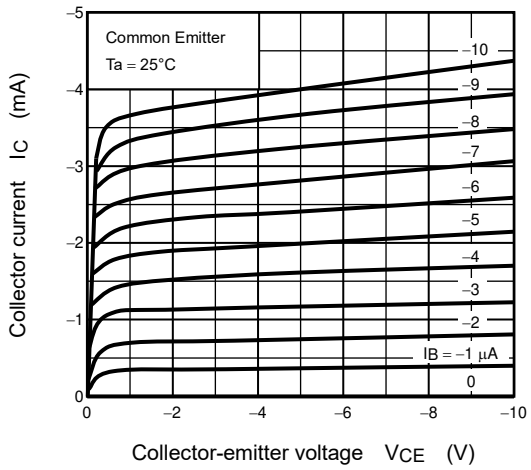
Note: h_{FE} classification GR (G): 200 to 400, BL (L): 350 to 700 ( ) marking symbol

Marking

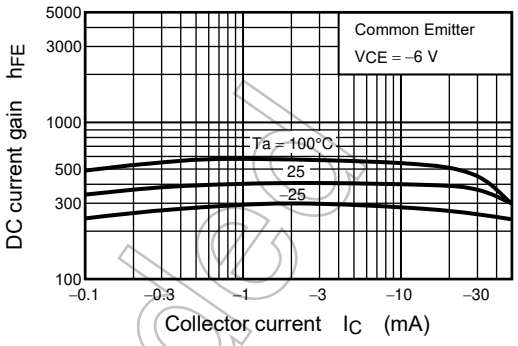


Characteristics Curves

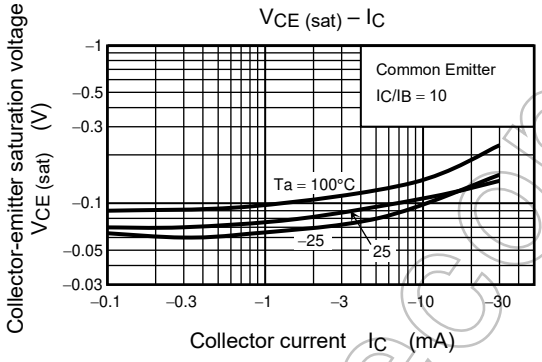
$I_C - V_{CE}$



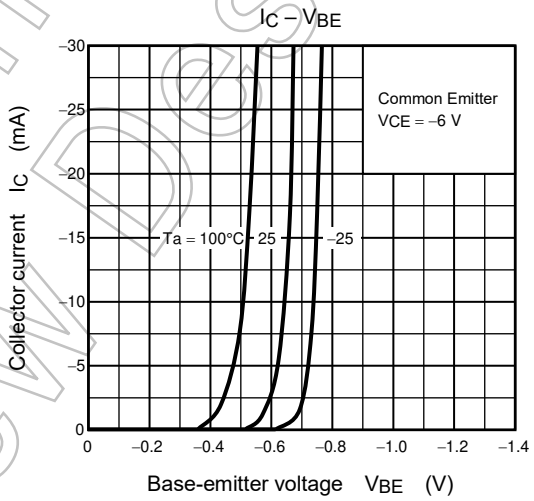
$h_{FE} - I_C$



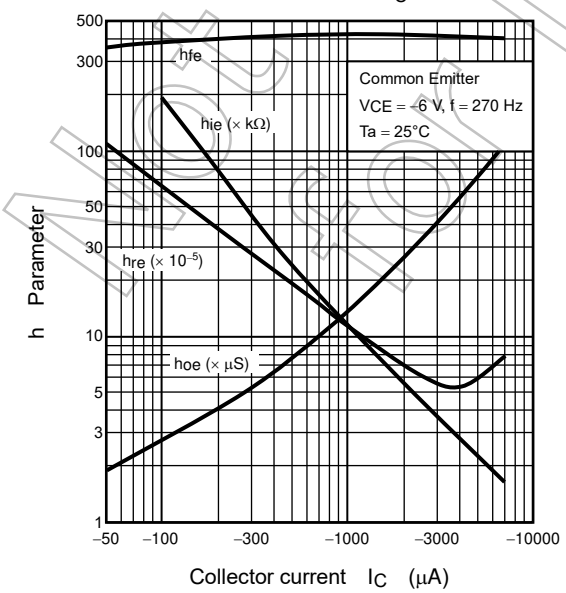
$V_{CE\ (sat)} - I_C$



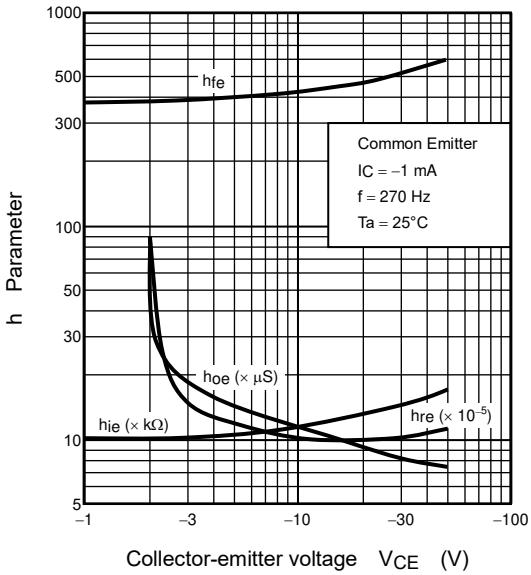
$I_C - V_{BE}$

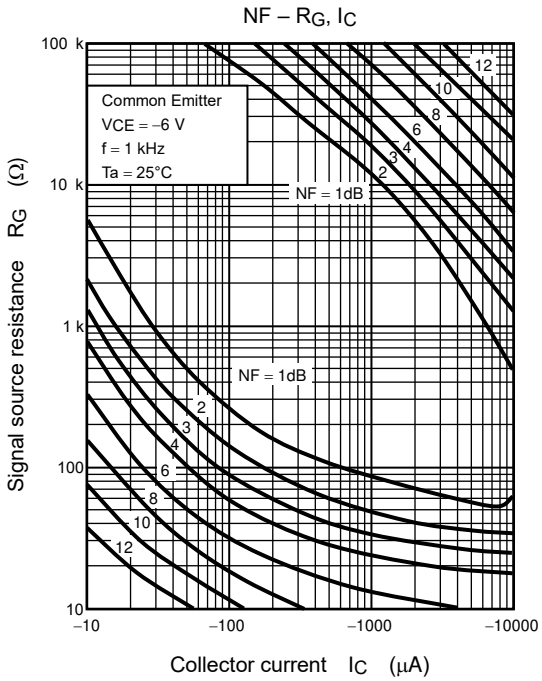


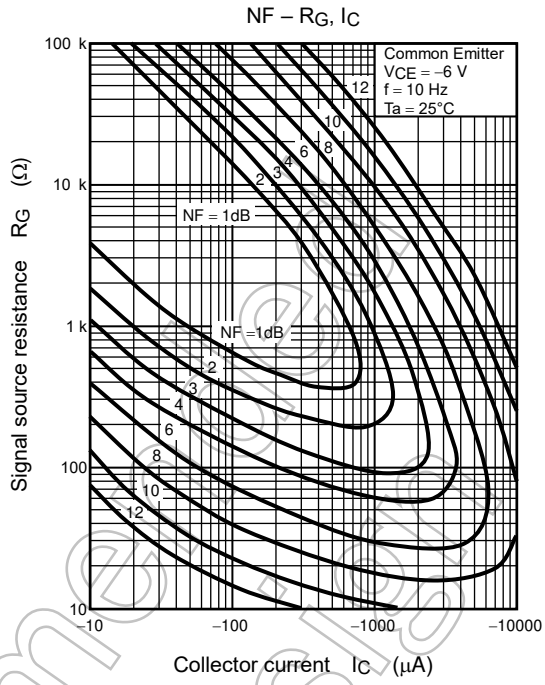
h Parameter – I_C

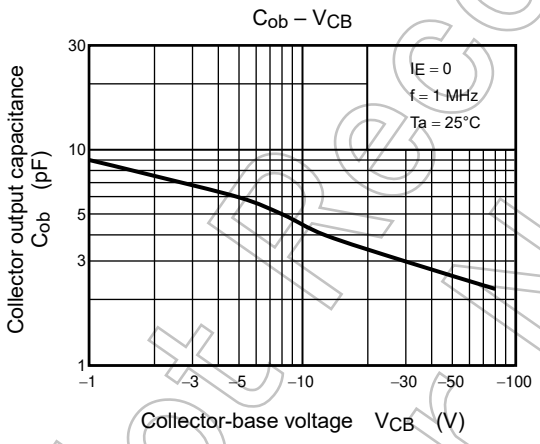


h Parameter – V_{CE}

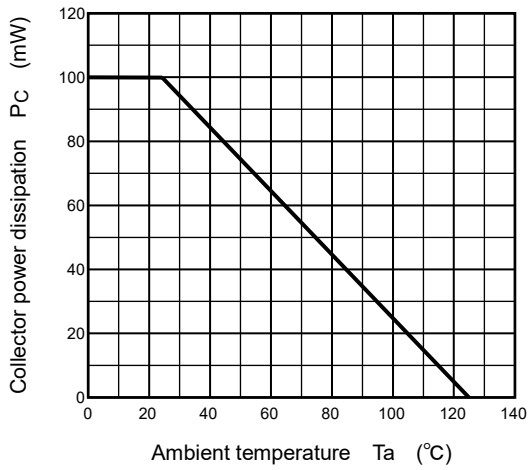






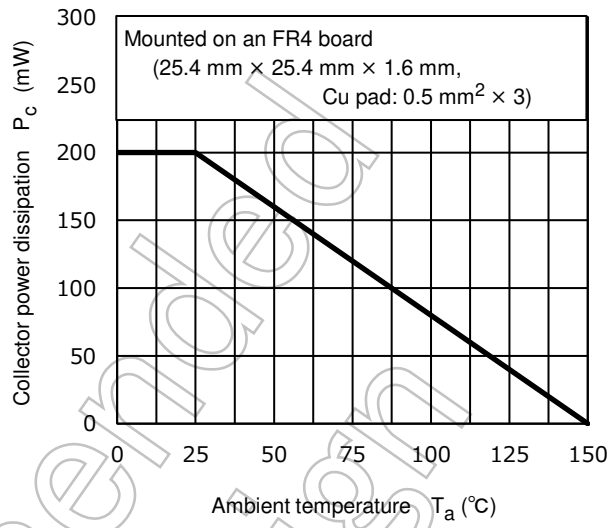


P_C – Ta (Note)



Note: Reference only with T_j of 125 ℃.

P_c - T_a (Note)



Note: Reference only with T_j of 150 ℃.

The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

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