
2SA836

Silicon PNP Epitaxial

HITACHI

ADE-208-316 (Z)

1st. Edition

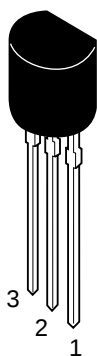
Mar. 2001

Application

Low frequency low noise amplifier

Outline

TO-92 (1)



- 1. Emitter
- 2. Collector
- 3. Base

Absolute Maximum Ratings (Ta = 25°C)

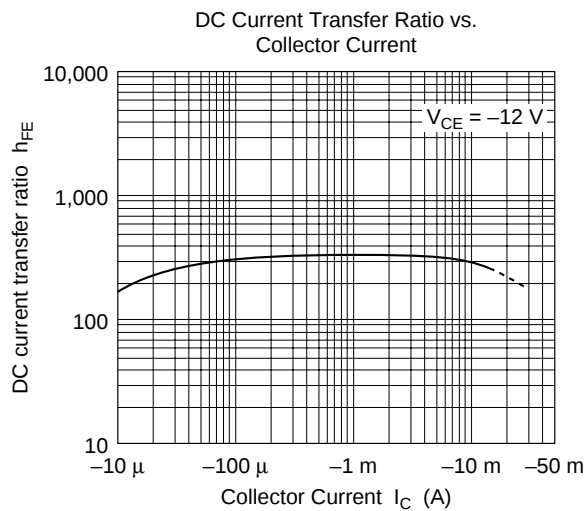
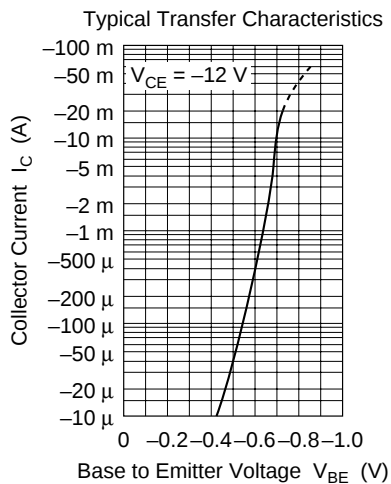
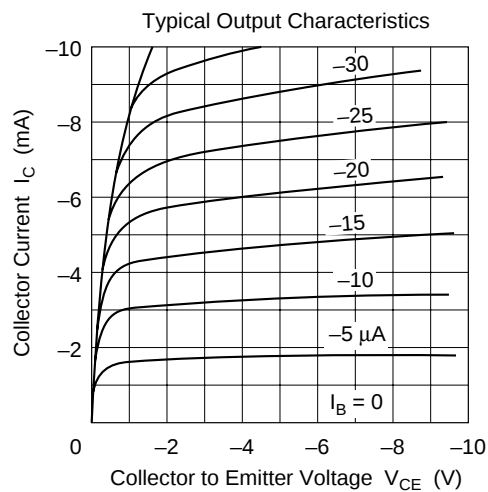
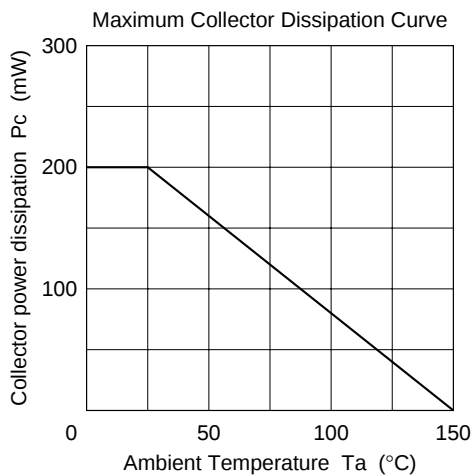
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-55	V
Collector to emitter voltage	V_{CEO}	-55	V
Emitter to base voltage	V_{EBO}	-5	V
Collector current	I_C	-100	mA
Emitter current	I_E	100	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

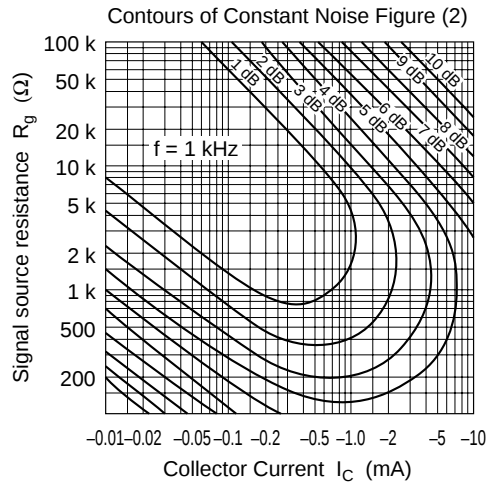
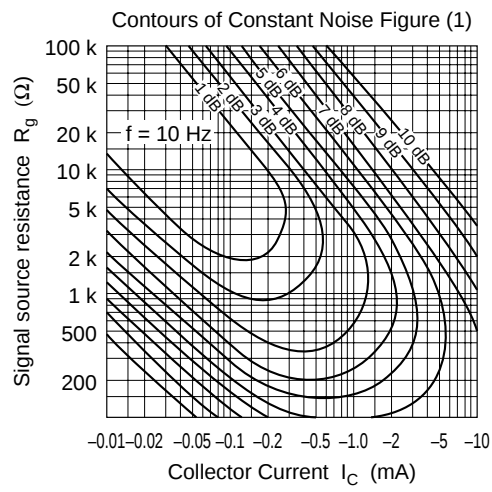
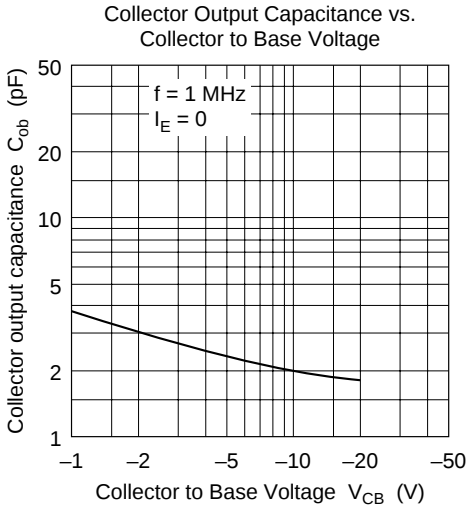
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-55	—	—	V	$I_C = -10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-55	—	—	V	$I_C = -1\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10\text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-100	nA	$V_{CB} = -18\text{ V}$, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	-50	nA	$V_{EB} = -2\text{ V}$, $I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	160	—	500		$V_{CE} = -12\text{ V}$, $I_C = -2\text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	-0.1	-0.5	V	$I_C = -10\text{ mA}$, $I_B = -1\text{ mA}$
Base to emitter voltage	V_{BE}	—	-0.66	-0.75	V	$V_{CE} = -12\text{ V}$, $I_C = -2\text{ mA}$
Gain bandwidth product	f_T	—	200	—	MHz	$V_{CE} = -12\text{ V}$, $I_E = -2\text{ mA}$
Collector output capacitance	C_{ob}	—	2.0	—	pF	$V_{CB} = -10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$
Noise figuer	NF	—	1	5	dB	$V_{CE} = -6\text{ V}$, $f = 10\text{ Hz}$
		—	0.5	1	dB	$I_C = -0.1\text{ mA}$, $f = 1\text{ kHz}$ $R_g = 10\text{ k}\Omega$

Note: 1. The 2SA836 is grouped by h_{FE} as follows.

C	D
160 to 320	250 to 500

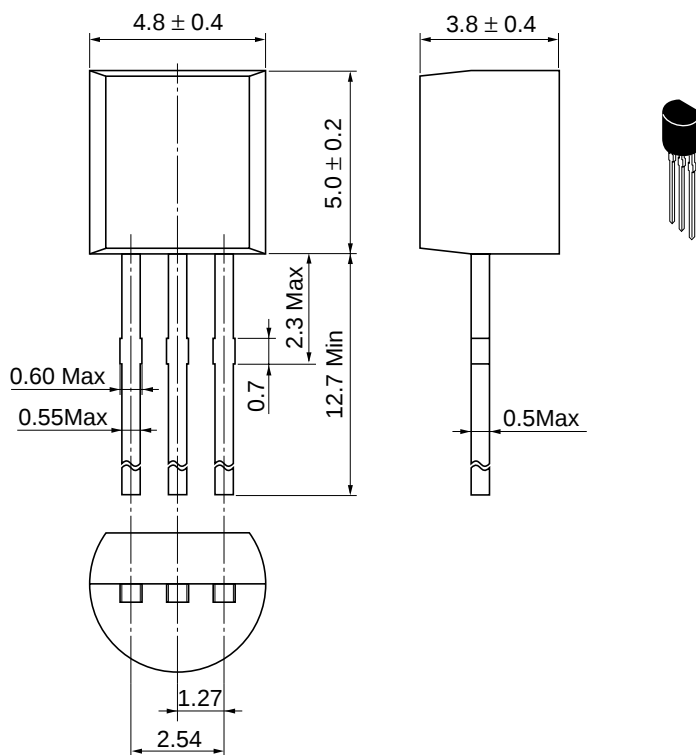




Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.25 g

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