
2SC4628

Silicon NPN Planar

HITACHI

ADE-208-1114 (Z)

1st. Edition

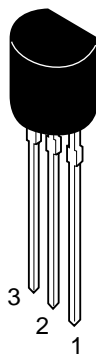
Mar. 2001

Application

High frequency amplifier

Outline

TO-92 (2)



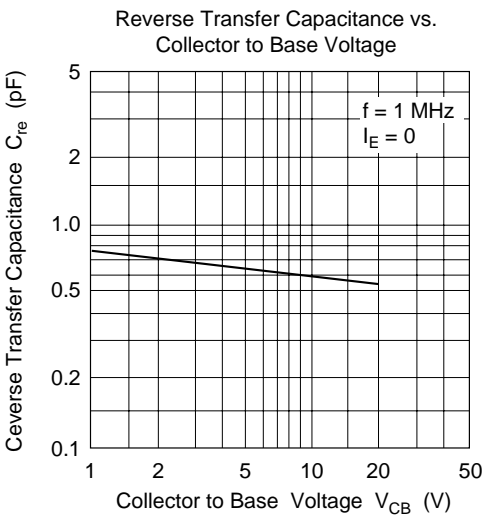
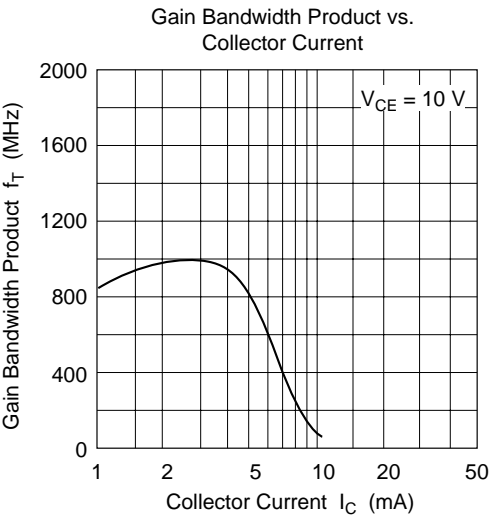
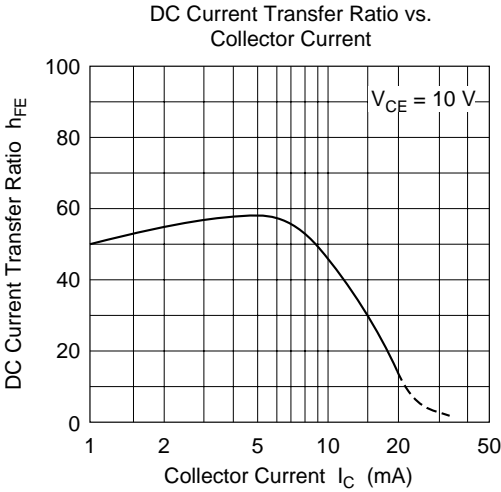
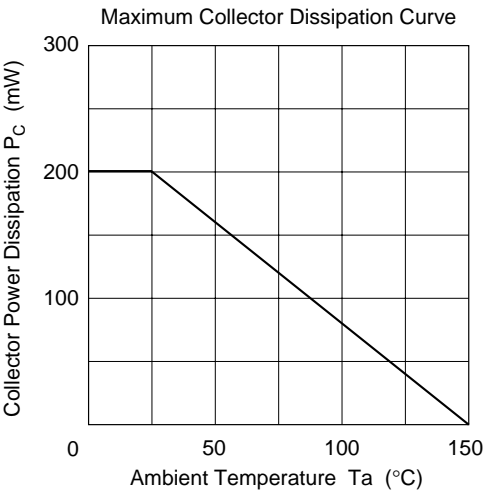
- 1. Emitter
- 2. Collector
- 3. Base

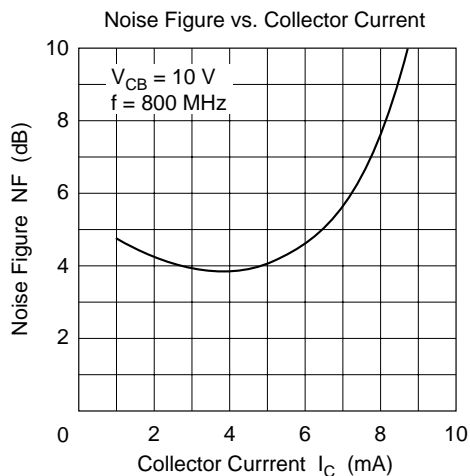
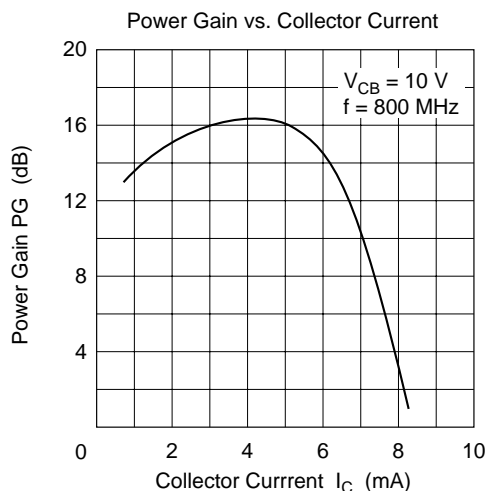
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_{C}	20	mA
Collector power dissipation	P_{C}	200	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

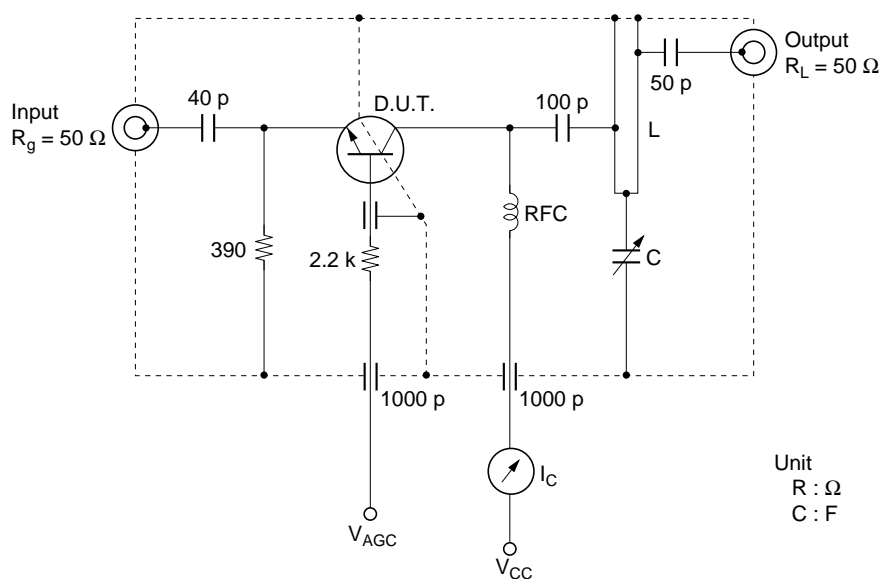
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	20	—	—	V	$I_{\text{C}} = 10\text{ }\mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	20	—	—	V	$I_{\text{C}} = 1\text{ mA}$, $R_{\text{BE}} = \infty$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{\text{EB}} = 3\text{ V}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{\text{CB}} = 15\text{ V}$, $I_{\text{E}} = 0$
DC current transfer ratio	h_{FE}	60	—	320		$V_{\text{CE}} = 10\text{ V}$, $I_{\text{C}} = 2\text{ mA}$
Gain bandwidth product	f_{T}	600	—	—	MHz	$V_{\text{CE}} = 10\text{ V}$, $I_{\text{C}} = 2\text{ mA}$
Reverse transfer capacitance	C_{re}	—	—	0.9	pF	$V_{\text{CB}} = 10\text{ V}$, $I_{\text{E}} = 0$, emitter common, $f = 1\text{ MHz}$
Power gain	PG	10	—	—	dB	$V_{\text{CB}} = 10\text{ V}$, $I_{\text{C}} = 2\text{ mA}$, $f = 800\text{ MHz}$
Noise figure	NF	—	—	7.0	dB	





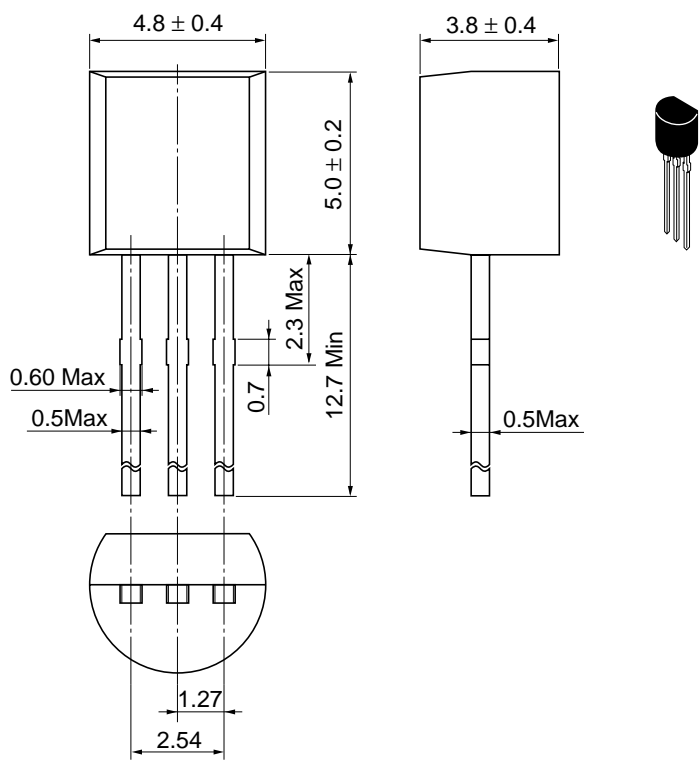
800 MHz Power Gain and Noise Figure Test Circuit



- C : 0.5 to 10 pF variable capacitance
L : $\lambda/4$ silver plated copper $26 \times 3 \times 1$ (mm)
Collector tap to ground distance: 7 mm
Output tap to ground distance: 3 mm
RFC : 0.17 mm copper wire, 2.4 mm inside dia, 16 turns
-3 dB down bandwidth is 40 MHz

Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	TO-92 (2)
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.25 g

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