2SC4628

Silicon NPN Planar

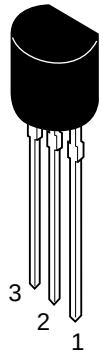
HITACHI

Application

High frequency amplifier

Outline

TO-92 (2)



1. Emitter
2. Collector
3. Base

Hitachi semiconductor

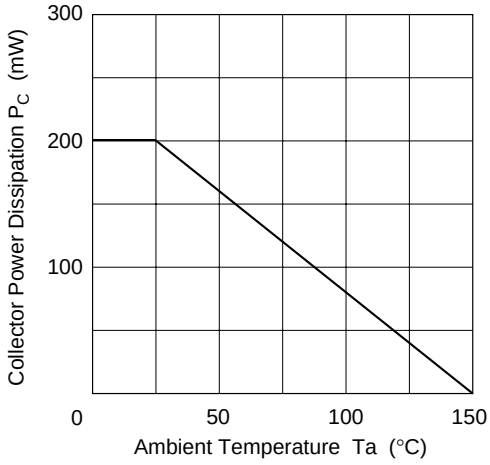
Absolute Maximum Ratings (Ta = 25°C)

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	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

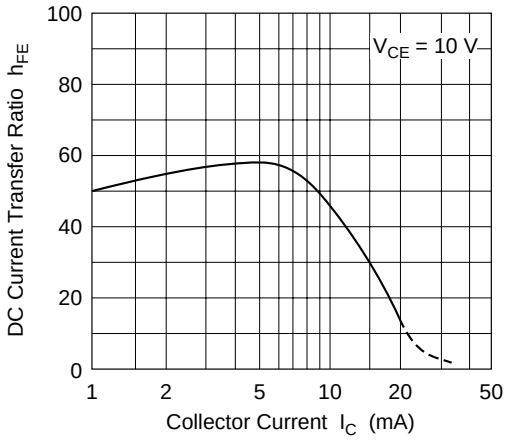
Electrical Characteristics (Ta = 25°C)

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

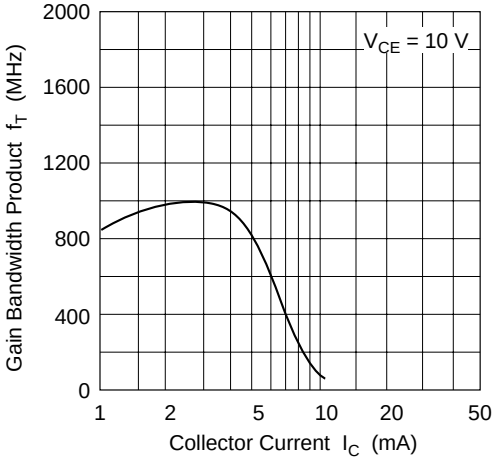
Maximum Collector Dissipation Curve



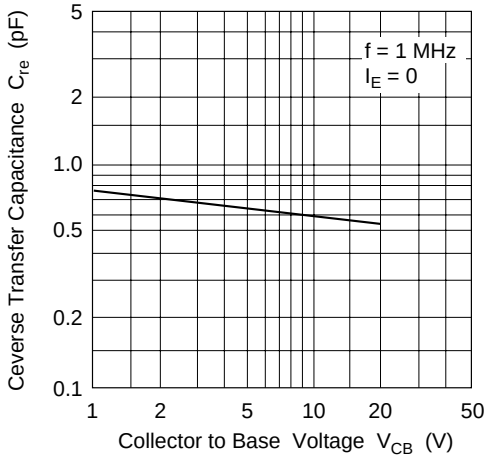
DC Current Transfer Ratio vs. Collector Current



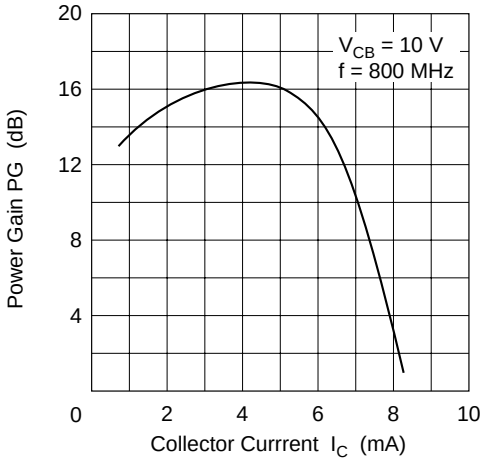
Gain Bandwidth Product vs. Collector Current



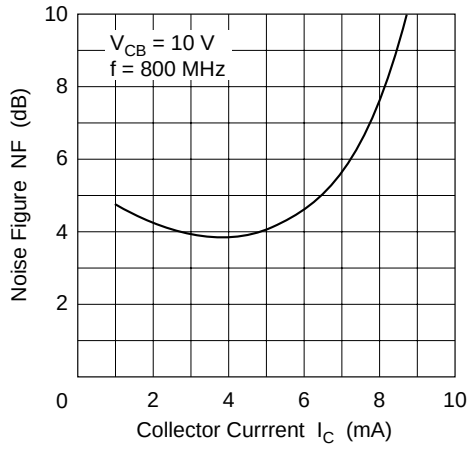
Reverse Transfer Capacitance vs. Collector to Base Voltage



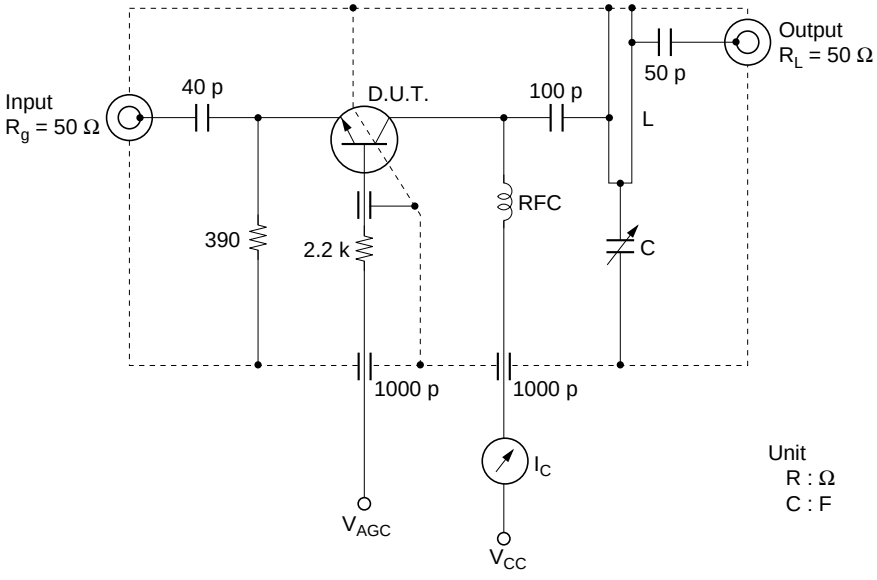
Power Gain vs. Collector Current



Noise Figure vs. Collector Current

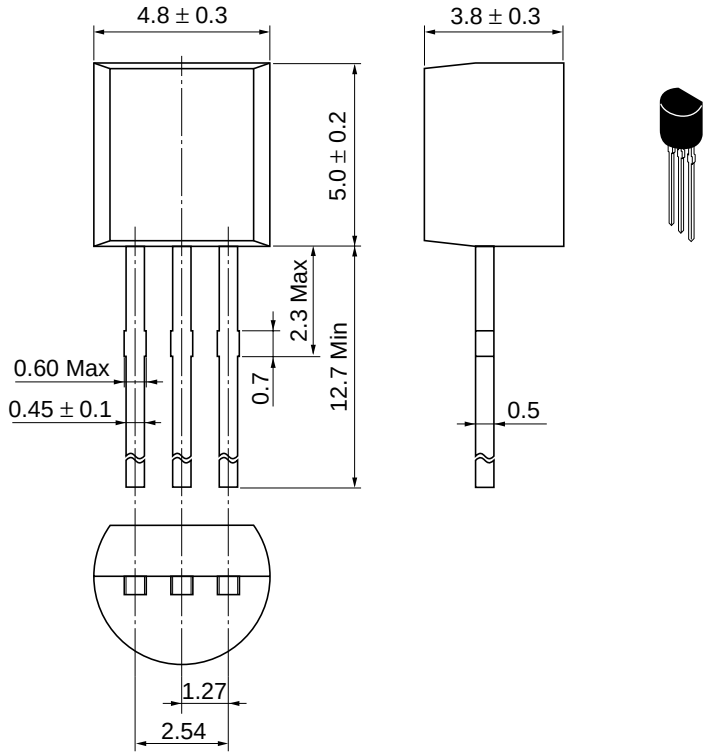


800 MHz Power Gain and Noise Figure Test Circuit



C : 0.5 to 10 pF variable capacitance
L : λ/4 silver platede copper 26 × 3 × 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

Unit: mm



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

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