

DATA SHEET

NEC

NPN SILICON RF TRANSISTOR **2SC4570**

NPN EPITAXIAL SILICON RF TRANSISTOR FOR UHF TUNER OSC/MIX 3-PIN SUPER MINIMOLD

DESCRIPTION

The 2SC4570 is a low supply voltage transistor designed for UHF OSC/MIX. It is suitable for a high density surface mount assembly since the transistor has been applied super minimold package.

FEATURES

- High Gain Bandwidth Product
 $f_T = 5.5 \text{ GHz TYP. @ } V_{CE} = 5 \text{ V, } I_C = 5 \text{ mA, } f = 1 \text{ GHz}$
- Low Output Capacitance
 $C_{ob} = 0.7 \text{ pF TYP. @ } V_{CB} = 5 \text{ V, } I_E = 0 \text{ mA, } f = 1 \text{ MHz}$
- 3-pin super minimold Package

★ ORDERING INFORMATION

Part Number	Quantity	Supplying Form
2SC4570	50 pcs (Non reel)	<ul style="list-style-type: none"> • 8 mm wide embossed taping • Pin 3 (collector) face to perforation side of the tape
2SC4570-T1	3 kpcs/reel	

Remark To order evaluation samples, contact your nearby sales office.
 The unit sample quantity is 50 pcs.

ABSOLUTE MAXIMUM RATINGS (T_A = +25°C)

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	V _{CBO}	20	V
Collector to Emitter Voltage	V _{CEO}	12	V
Emitter to Base Voltage	V _{EBO}	3	V
Collector Current	I _C	30	mA
Total Power Dissipation	P _{tot} ^{Note}	120	mW
Junction Temperature	T _j	125	°C
Storage Temperature	T _{stg}	-55 to +125	°C

Note Free air

Caution Observe precautions when handling because these devices are sensitive to electrostatic discharge.

The information in this document is subject to change without notice. Before using this document, please confirm that this is the latest version.
 Not all devices/types available in every country. Please check with local NEC Compound Semiconductor Devices representative for availability and additional information.

ELECTRICAL CHARACTERISTICS (T_A = +25°C)

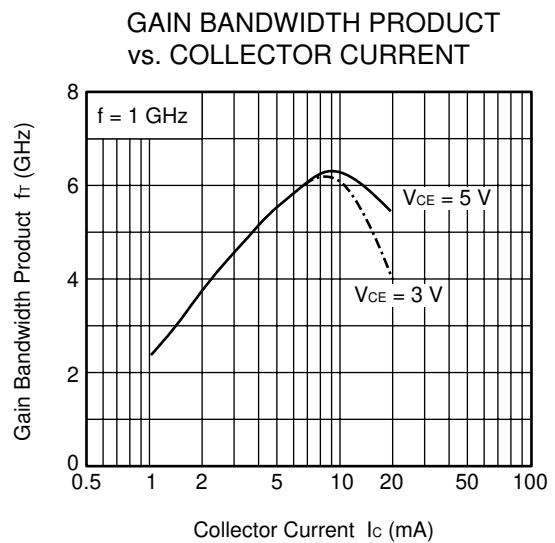
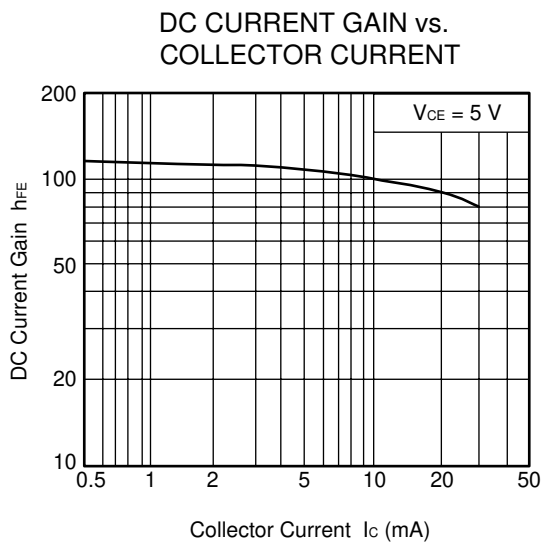
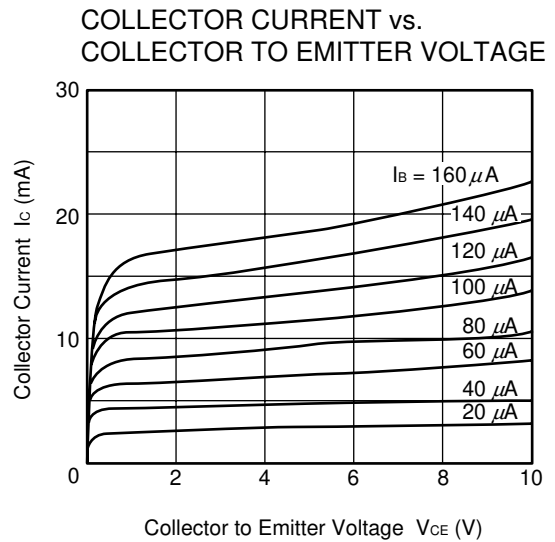
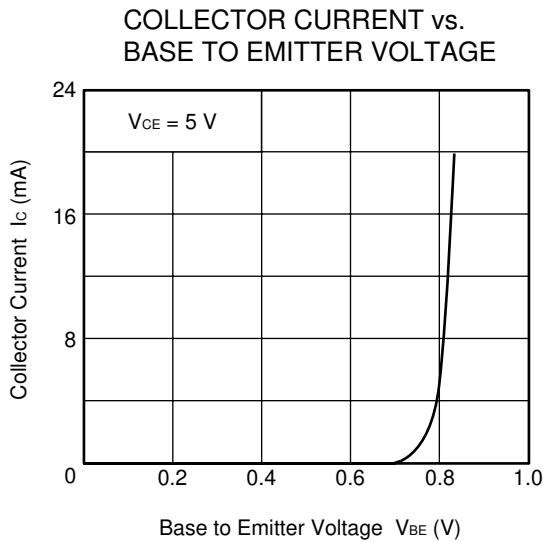
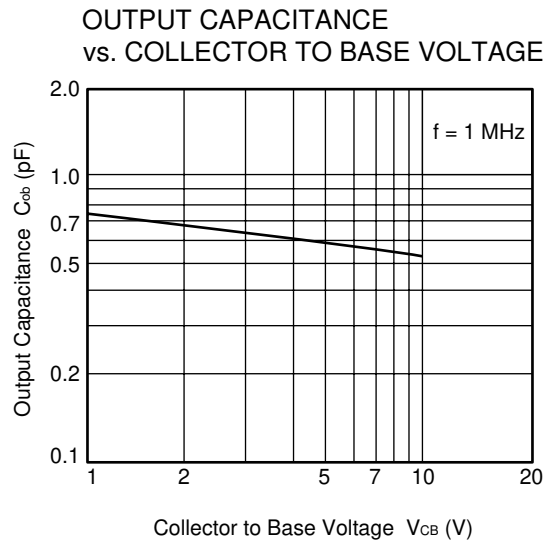
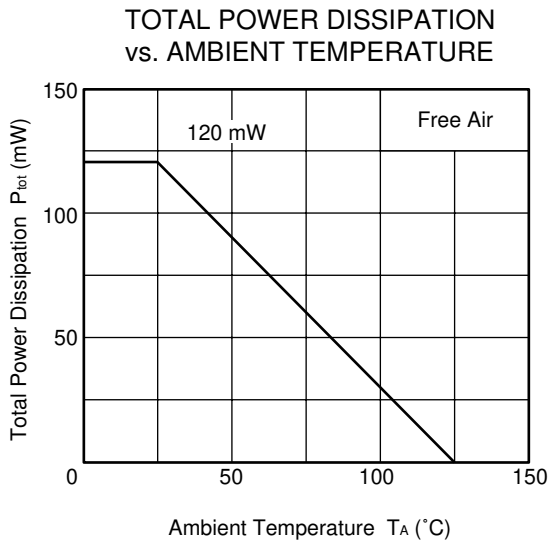
Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
DC Characteristics						
Collector Cut-off Current	I _{CB0}	V _{CB} = 15 V, I _E = 0 mA	–	–	100	nA
Emitter Cut-off Current	I _{EB0}	V _{EB} = 1 V, I _C = 0 mA	–	–	100	nA
Collector Saturation Voltage	V _{CE(sat)}	h _{FE} = 10, I _C = 5 mA	–	–	0.5	V
DC Current Gain	h _{FE} ^{Note 1}	V _{CE} = 5 V, I _C = 5 mA	40	100	200	–
RF Characteristics						
Gain Bandwidth Product	f _T	V _{CE} = 5 V, I _C = 5 mA, f = 1.0 GHz	–	5.5	–	GHz
Insertion Power Gain	S _{21e} ²	V _{CE} = 5 V, I _C = 5 mA, f = 1.0 GHz	5.0	–	–	dB
Output Capacitance	C _{ob} ^{Note 2}	V _{CB} = 5 V, I _E = 0 mA, f = 1.0 MHz	–	0.7	0.9	pF

- Notes 1.** Pulse measurement: PW ≤ 350 μs, Duty Cycle ≤ 2%
2. Collector to base capacitance when the emitter grounded

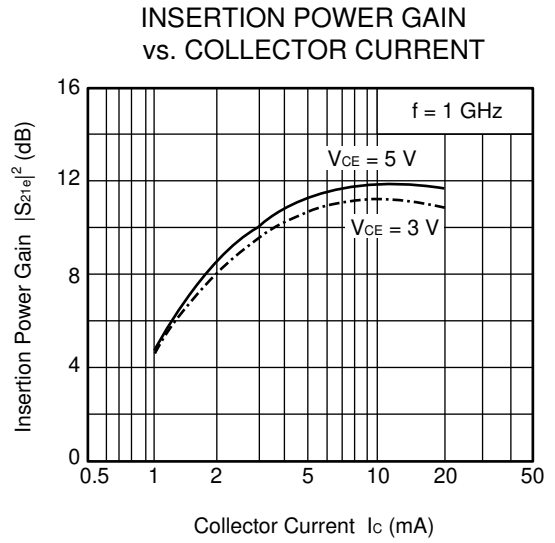
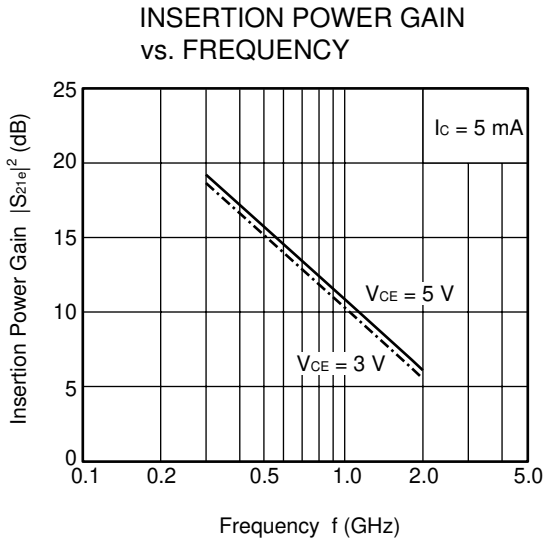
h_{FE} CLASSIFICATION

Rank	T72	T73	T74
Marking	T72	T73	T74
h _{FE} Value	40 to 80	60 to 120	100 to 200

TYPICAL CHARACTERISTICS (T_A = +25°C, unless otherwise specified)



Remark The graphs indicate nominal characteristics.



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★ **S-PARAMETERS**

S-parameters/Noise parameters are provided on the NEC Compound Semiconductor Devices Web site in a form (S2P) that enables direct import to a microwave circuit simulator without keyboard input.

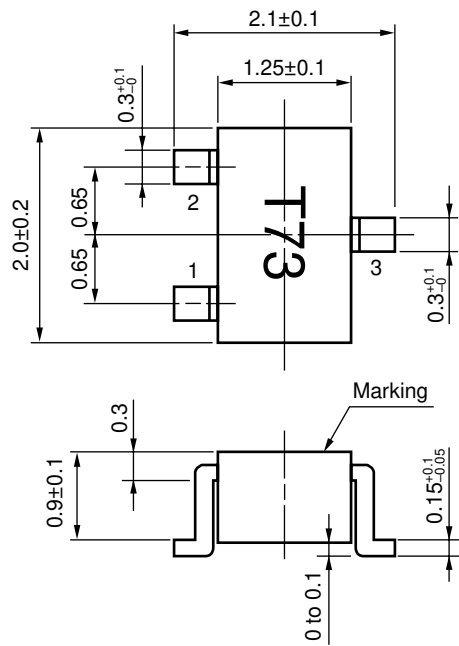
Click here to download S-parameters.

[RF and Microwave] → [Device Parameters]

URL <http://www.ncsd.necel.com/>

★ PACKAGE DIMENSIONS

3-PIN SUPER MINIMOLD PACKAGE (UNIT: mm)



PIN CONNECTIONS

1. Emitter
2. Base
3. Collector

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