

2SC4226

DESCRIPTION

The 2SC4226 is a low supply voltage transistor designed for VHF, UHF low noise amplifier.

It is suitable for a high density surface mount assembly since the transistor has been applied 3-pin super minimold package.

FEATURES

- Low noise : $NF = 1.2 \text{ dB TYP. @ } V_{CE} = 3 \text{ V, } I_C = 7 \text{ mA, } f = 1 \text{ GHz}$
- High gain : $|S_{21e}|^2 = 9 \text{ dB TYP. @ } V_{CE} = 3 \text{ V, } I_C = 7 \text{ mA, } f = 1 \text{ GHz}$
- 3-pin super minimold package

<R> ORDERING INFORMATION

Part Number	Order Number	Package	Quantity	Supplying Form
2SC4226	2SC4226-A	3-pin super Minimold (Pb-Free)	50 pcs (Non reel)	• 8 mm wide embossed taping
2SC4226-T1	2SC4226-T1-A		3 kpcs/reel	• Pin 3 (Collector) face the perforation side of the tape

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

ABSOLUTE MAXIMUM RATINGS ($T_A = +25^\circ\text{C}$)

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	100	mA
Total Power Dissipation	P_{tot}^{Note}	150	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (T_A = +25°C)

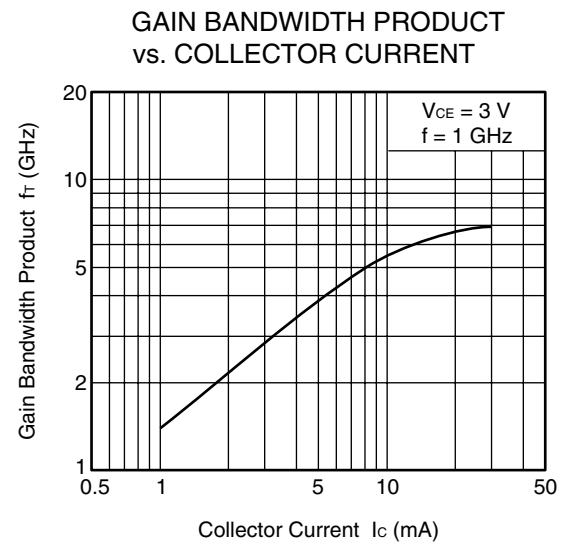
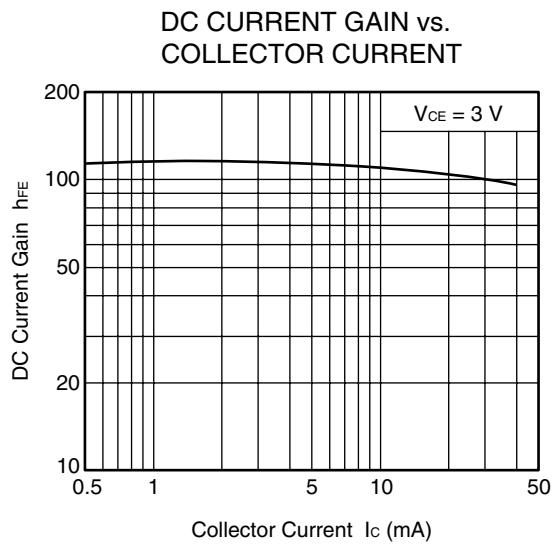
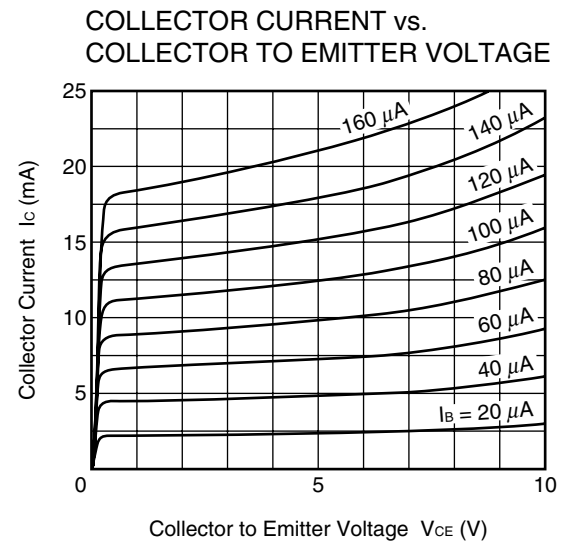
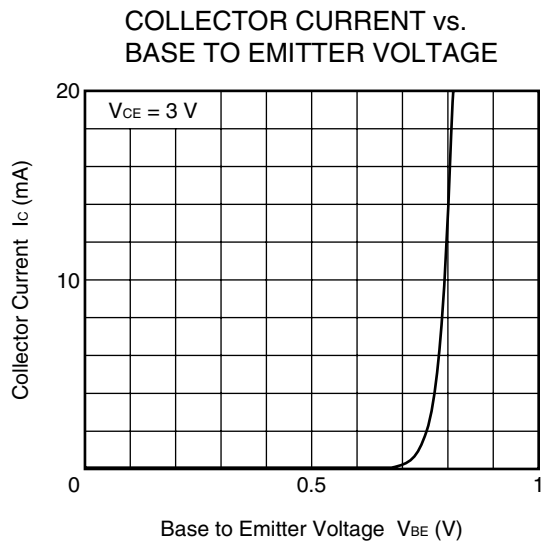
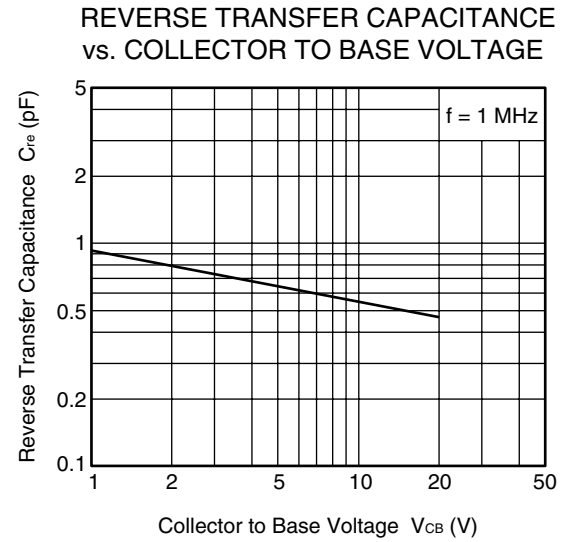
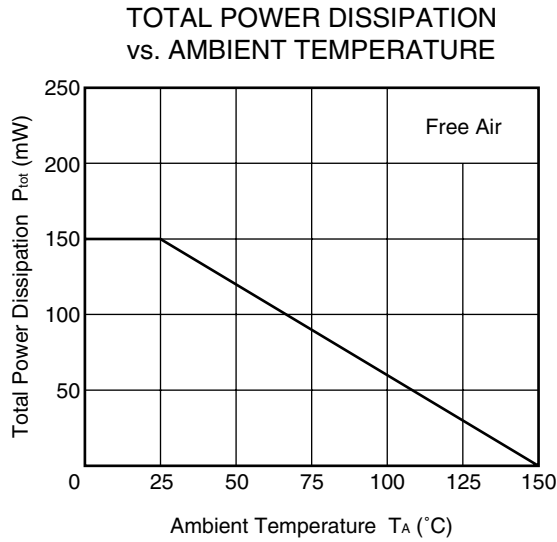
Parameter	Symbol	Test Conditions	MIN.	TYP.	MAX.	Unit
DC Characteristics						
Collector Cut-off Current	I _{CBO}	V _{CB} = 10 V, I _E = 0	–	–	1.0	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} = 1 V, I _C = 0	–	–	1.0	μA
DC Current Gain	h _{FE} ^{Note 1}	V _{CE} = 3 V, I _C = 7 mA	40	110	250	–
RF Characteristics						
Gain Bandwidth Product	f _T	V _{CE} = 3 V, I _C = 7 mA	3.0	4.5	–	GHz
Insertion Power Gain	S _{21e} ²	V _{CE} = 3 V, I _C = 7 mA, f = 1 GHz	7	9	–	dB
Noise Figure	NF	V _{CE} = 3 V, I _C = 7 mA, f = 1 GHz	–	1.2	2.5	dB
Reverse Transfer Capacitance	C _{re} ^{Note 2}	V _{CB} = 3 V, I _E = 0, f = 1 MHz	–	0.7	1.5	pF

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

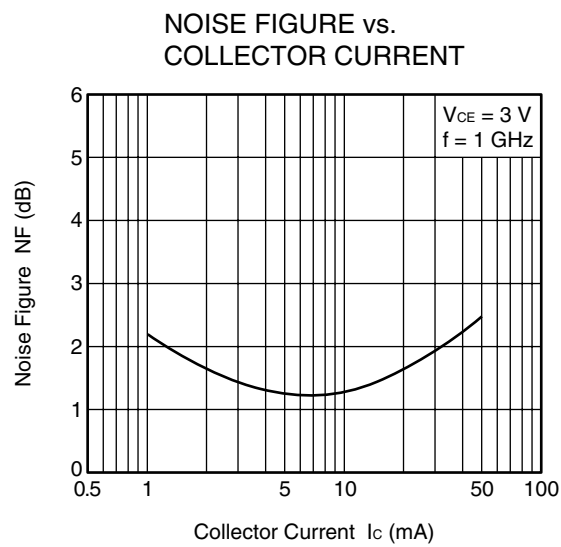
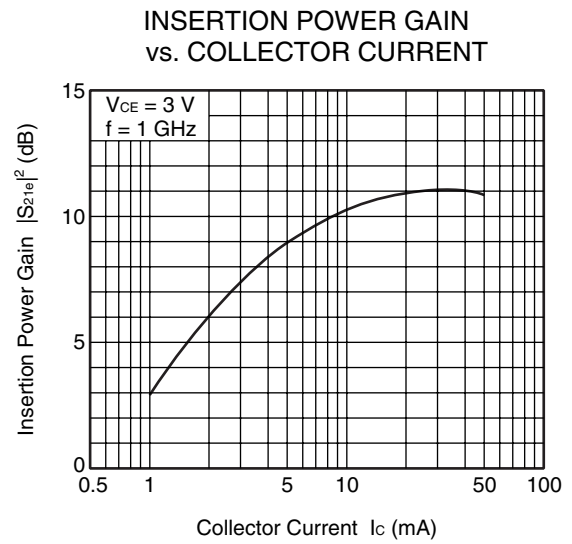
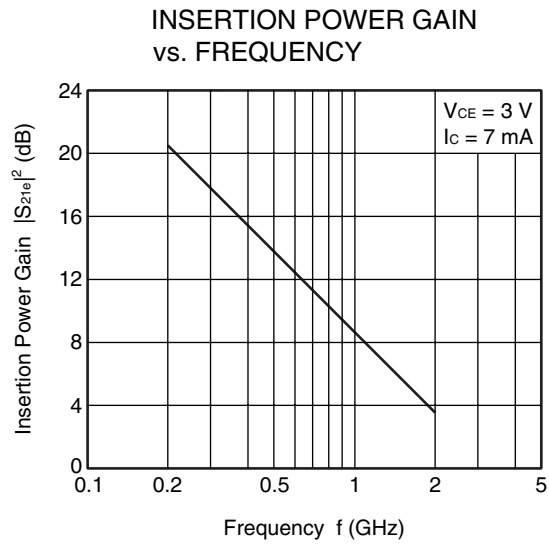
<R> **h_{FE} CLASSIFICATION**

Rank	R23/Y23	R24/Y24	R25/Y25
Marking	R23	R24	R25
h _{FE} Value	40 to 80	70 to 140	125 to 250

TYPICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise specified)



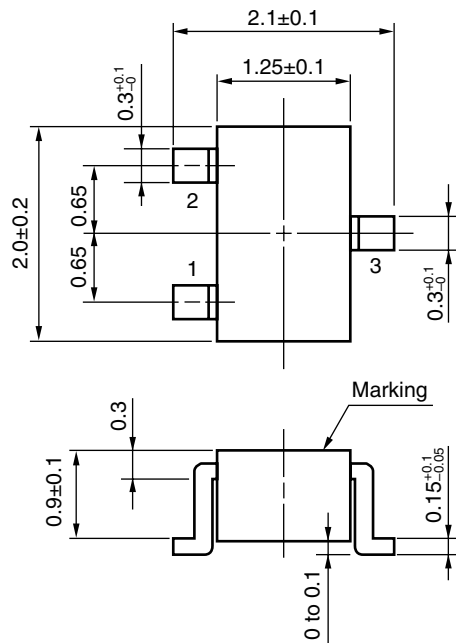
Remark The graphs indicate nominal characteristics.



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PACKAGE DIMENSIONS

3-PIN SUPER MINIMOLD (UNIT: mm)



PIN CONNECTIONS

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

(EIAJ : SC-70)

Revision History	2SC4226 Data Sheet
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Rev.	Date	Description	
		Page	Summary
–	Dec 2003	–	Previous No. :PU10450EJ01V0DS
2.00	Jun 29, 2011	p.1	Modification of ORDERING INFORMATION
		p.2	Modification of h_{FE} CLASSIFICATION