

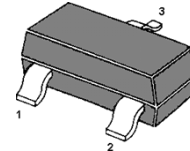
MMBTSC4226 NPN Silicon Epitaxial Planar Transistor

High Frequency Low Noise Amplifier.

The transistor is subdivided into three groups, Q, R and S, according to its DC current gain.

Features:

- Low Noise
NF=1.2dB TYP. @ f=1GHz, $V_{CE}=3V$, $I_C=7mA$
- High Gain
 $|S_{21e}| = 9.0dB$ TYP. @ f=1GHz, $V_{CE}=3V$, $I_C=7mA$



1.Base 2.Emitter 3.Collector
SOT-23 Plastic Package

Description:

The MMBTSC4226 is a low supply voltage transistor designed for VHF, UHF low noise amplifier.

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	20	V
Collector Emitter Voltage	V_{CEO}	12	V
Emitter Base Voltage	V_{EBO}	3	V
Collector Current	I_C	100	mA
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_S	-65 to +150	$^\circ C$

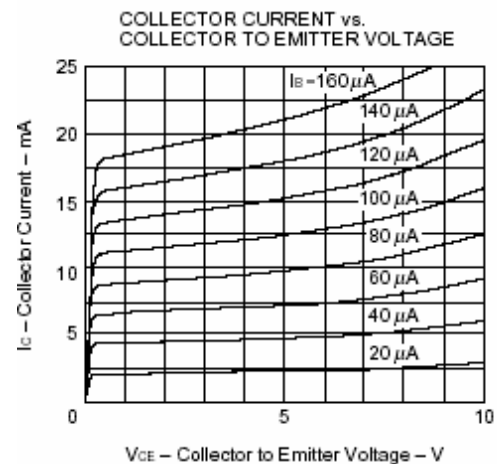
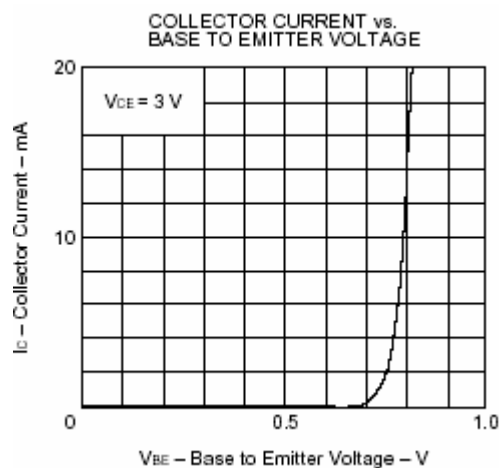
Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=3\text{V}$, $I_C=7\text{mA}$					
Current Gain Group Q	h_{FE}	50	-	100	-
R	h_{FE}	80	-	160	-
S	h_{FE}	125	-	250	-
Collector Cutoff Current at $V_{CB}=10\text{V}$	I_{CBO}	-	-	1.0	μA
Emitter Cutoff Current at $V_{EB}=1\text{V}$	I_{EBO}	-	-	1.0	μA
Gain Bandwidth Product at $V_{CE}=3\text{V}$, $I_C=7\text{mA}$	f_T	3.0	4.5	-	GHz
Feed back Capacitance ¹⁾ at $V_{CE}=3\text{V}$, $f=1\text{MHz}$	C_{re}	-	0.7	1.5	pF
Insertion Power Gain at $V_{CE}=3\text{V}$, $I_C=7\text{mA}$, $f=1\text{GHz}$	$ S_{21e} ^2$	7	9	-	dB
Noise Figure at $V_{CE}=3\text{V}$, $I_C=7\text{mA}$, $f=1\text{GHz}$	NF	-	1.2	2.5	dB

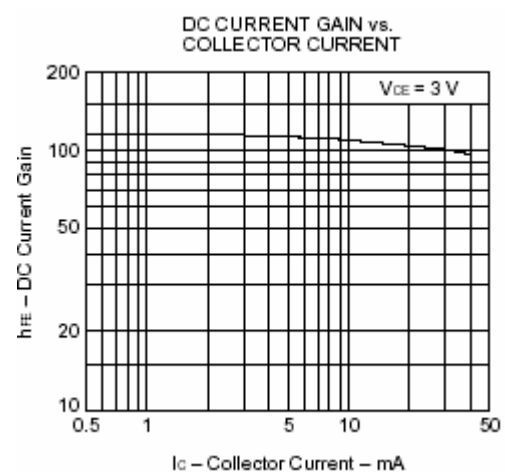
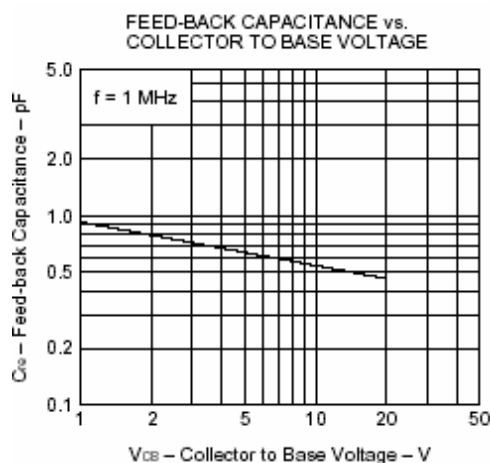
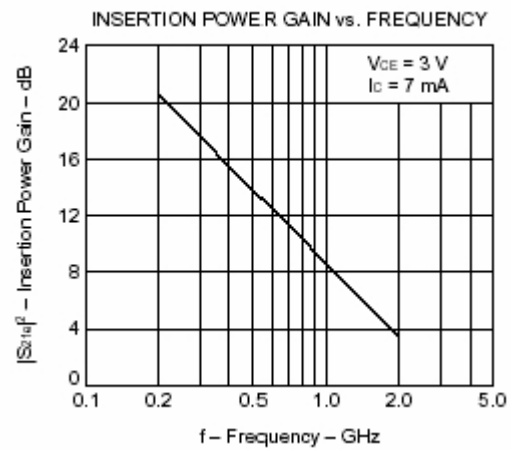
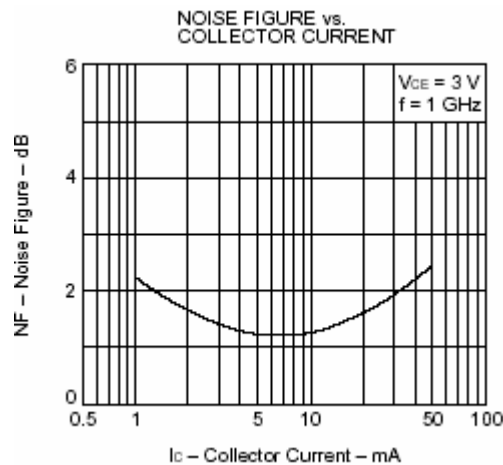
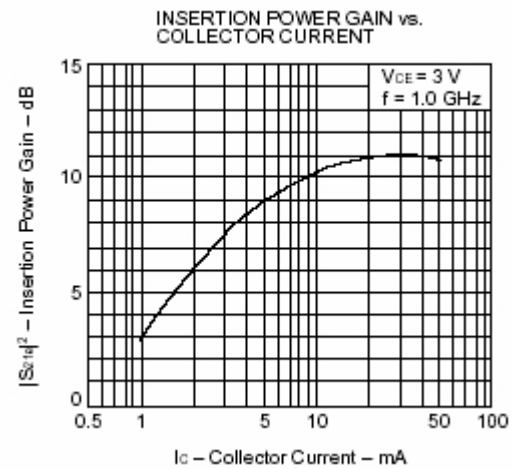
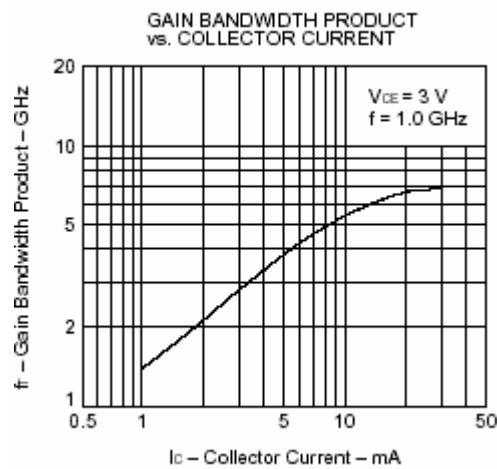
¹⁾ Measured with 3 terminal bridge, Emitter and case should be grounded.

Classification of h_{FE}

RANK	Q	R	S
MARKING	R23	R24	R25
h_{FE}	50 ~100	80 ~160	125 ~250

Typical Characteristics

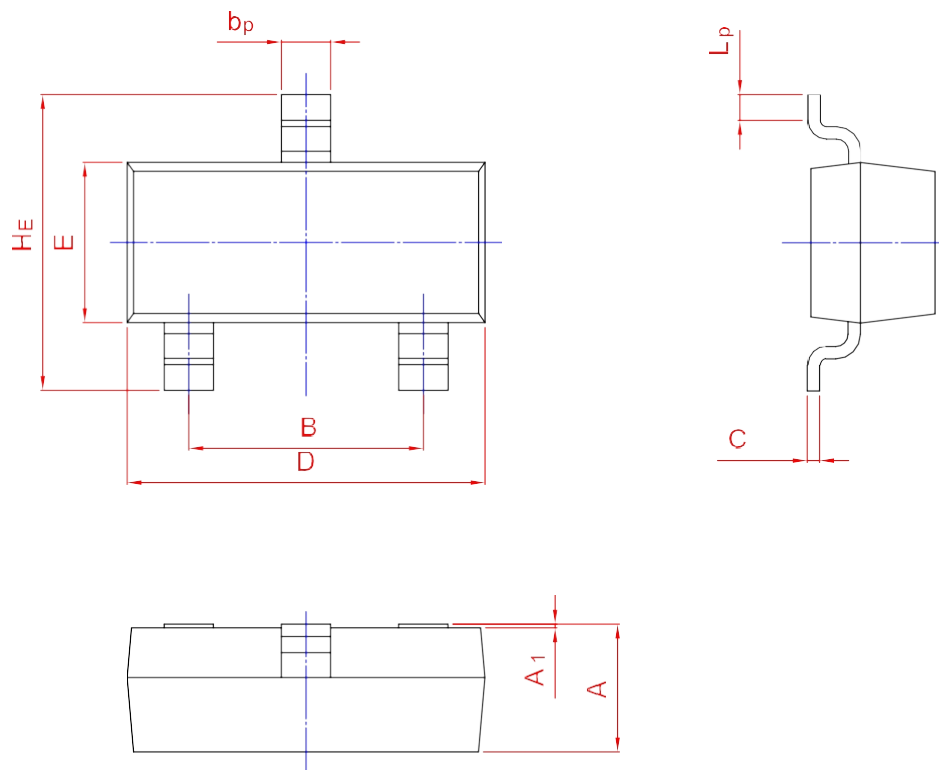
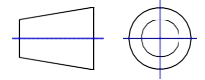
Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b _p	C	D	E	H _E	A ₁	L _p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20