Approved by:
Checked by:
Issued by:

SPECIFICATION

PRODUCT: NPN 7GHz wideband transistor
MODEL: MAS5066

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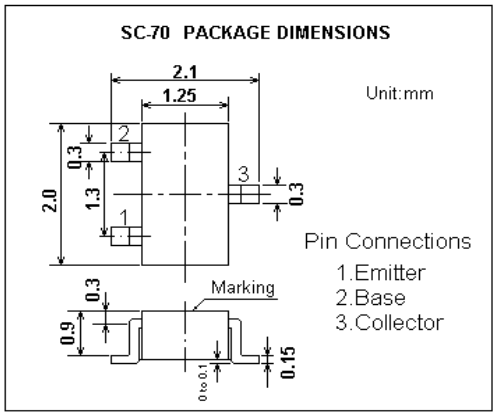
MAS5066

This item can replace 2SC5066

FEATURES

- Low Noise Figure, High Gain
- NF=1.1dB,$|S_{21e}|^2$ =12dB(f=1GHZ).
- SOT-323 / SC-70 package



APPLICATION

VHF~UHF BAND LOW NOISE AMPLIFIER

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	Collector-base Current	V_{CB}=10V,I_E=0	-	-	1.0	uA
I_{EBO}	Collector-emitter Current	V_{EB}=1V,I_C=0	-	-	1.0	uA
h_{FE}	DC current gain	Ic=10mA Vce=5V ,Tj=25℃	80	-	240	
f_T	Transition frequency	Ic=10mA Vce=5V f=1GHz, Tamb=25℃	5	7	-	GHZ
Cob	Output Capacitance	Vcb=5 V,I_E=0,f=1MHZ	-	0.7	-	pF
Cre	Reverse Transfer Capacitance	Vcb=5 V,I_E=0,f=1MHZ	-	0.45	0.9	pF
$\|S_{21e}\|^2$ (1)	Insertion Power Gain	V_{CE}=5V, Ic=10mA, f=500MHZ	-	17	-	dB
$\|S_{21e}\|^2$ (2)	Insertion Power Gain	V_{CE}=5V, Ic=10mA, f=1GHZ	8.5	12	-	dB
NF(1)	Noise figure	Ic=3mA, Vce=5V; f=500MHZ;	--	1	-	dB
NF(2)	Noise figure	Ic=3mA, Vce=5V; f=1GHZ;	-	1.1	2.0	dB

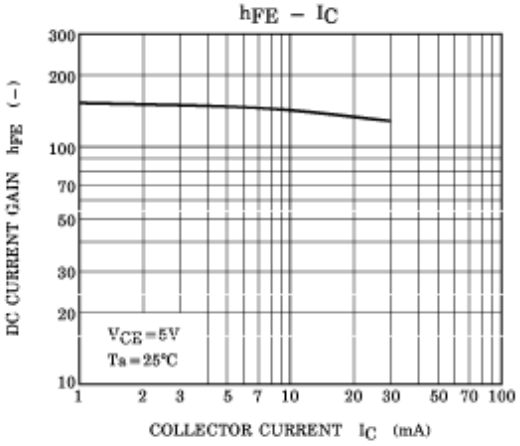
LIMITING VALUES(Ta=25℃)

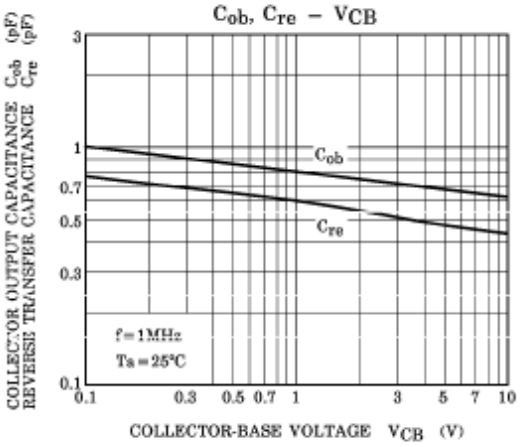
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-	20	V
V_{CEO}	Collector-emitter voltage	R_{BE}=0	-	12	V
V_{EBO}	Emitter-base voltage	Open collector	-	3	V
I_C	DC collector current		-	30	mA
P_{tot}	Total power dissipation	Up to T_S =118℃;note 1	-	100	mW
T_{stg}	Storage temperature		-55	125	℃
T_j	Junction temperature		-	125	℃

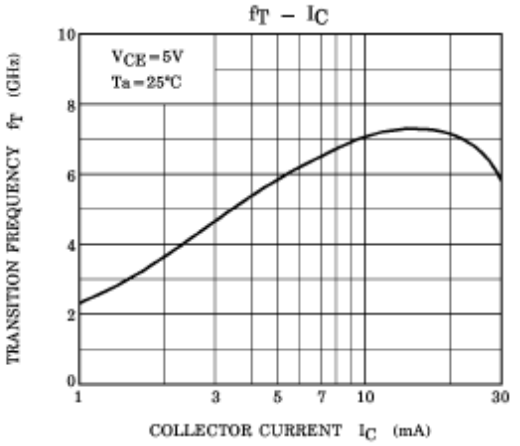
Note

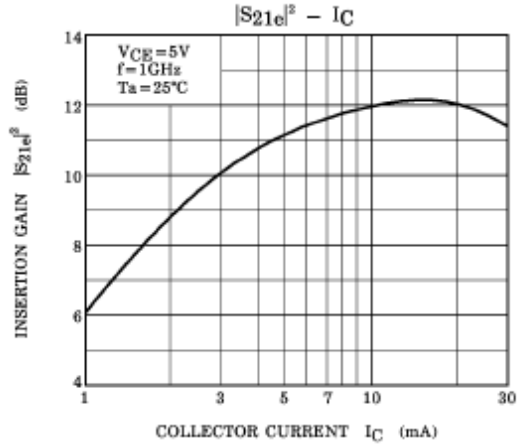
1. Ts is the temperature at the soldering point of the collector tab.

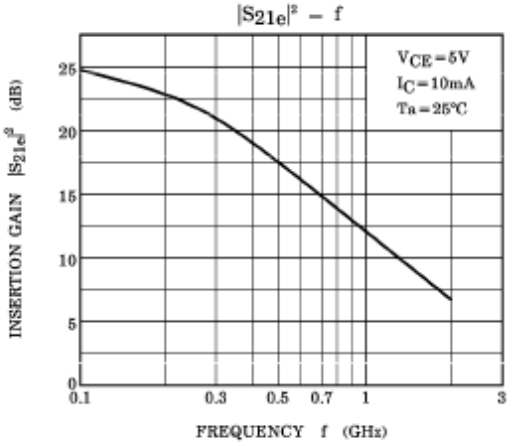
TYPICAL CHARACTERISTICS(TA=25℃)

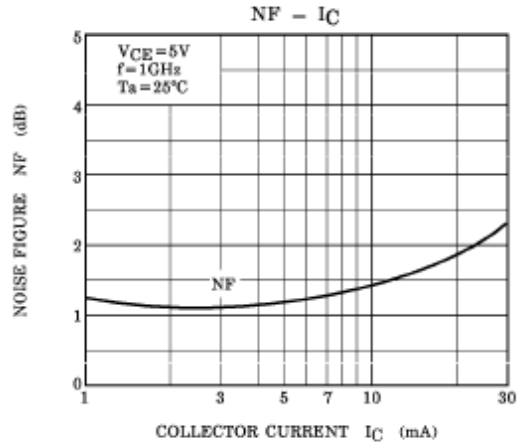


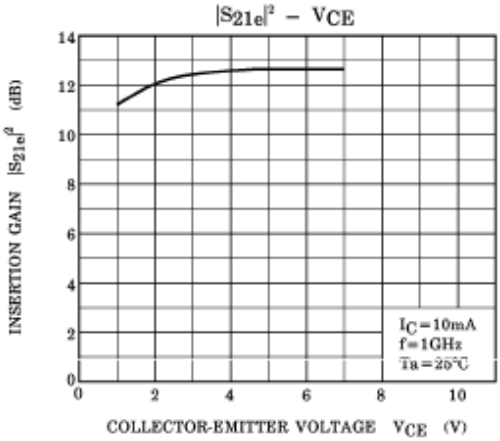


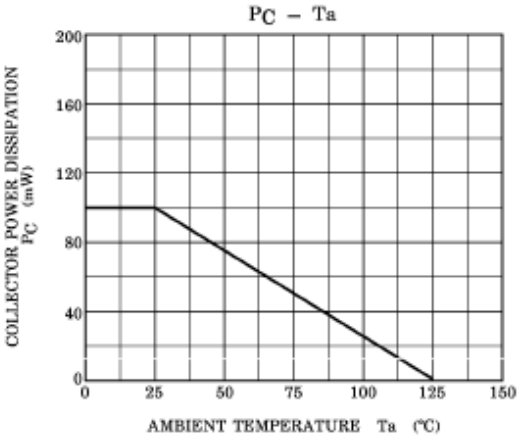









$|S_{21e}|^2$ – V_{CE}
INSERTION GAIN $|S_{21e}|^2$ (dB)
14
12
10
8
6
4
2
0
0
2
4
6
8
10
I_C = 10mA
f = 1GHz
Ta = 25°C
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)


P_C – Ta
COLLECTOR POWER DISSIPATION P_C (mW)
200
160
120
80
40
0
0
25
50
75
100
125
150
AMBIENT TEMPERATURE Ta (°C)