Approved by:
Checked by:
Issued by:

SPECIFICATION

PRODUCT: NPN 10GHz wideband transistor

MODEL: MAT5091 SOT523

HOPE MICROELECTRONICS CO.,LIMITED

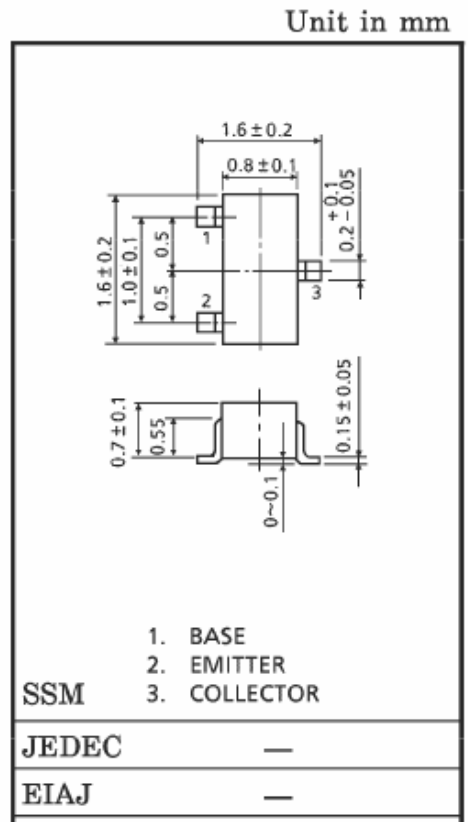
Tel:+86-755-82973806 Fax:+86-755-82973550 E-mail: sales@hoperf.com http://www.hoperf.com

M A T5091

This item can replace **2SC5091**

FEATURES

- High power gain, Insertion power gain $|S21|^2$=7dB at 1GHz
- Low noise,Noise figure NF=1.1dB at 1GHz
- High transition frequency f_T=10GHz
- Gold metallization ensures excellent reliability
- Large dynamic range
- Good current characteristic
- SOT-523 / SC-75 package



APPLICATION

Intended for applications in the GHz range such as MATV or CATV amplifiers and RF communications subscriber equipment.

DESCREPTION

NPN silicon plananr transistor 3 pin SOT-523 package.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
$\|S21e\|^{2\ (1)}$	Insertion Gain	VCE=8V,IC=20mA,f=1GHZ	10	13	
$\|S21e\|^{2\ (2)}$		VCE=8V,IC=20mA,f=2GHZ		7	
P_{tot}	total power dissipation			100	mW
C_{re}	Feedback capacitance	IC=0; VCE=10V; f=1MHz	0.5	0.95	pF
f_T	Transition frequency	IC=20mA; VCE=8V	10	-	GHz
F	noise figure	IC=5mA; VCE=8V; f=1GHz;s=opt;Tamb=25℃	1.1	2.5	dB
		IC=5mA; VCE=8V; f=2GHz;s=opt;Tamb=25℃	1.7	-	dB
C_{OB}	output voltage	VCB=10V,IE=0,f=1MHz	0.7		pF

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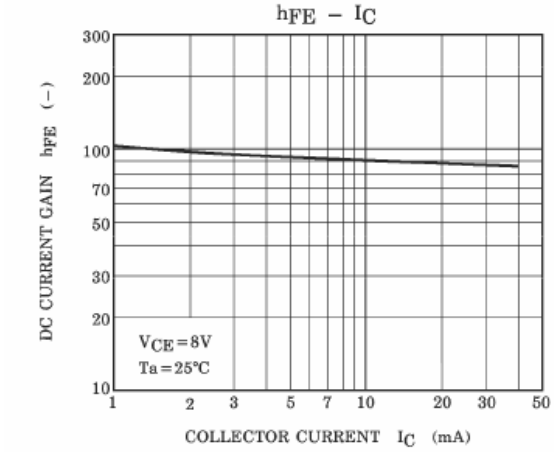
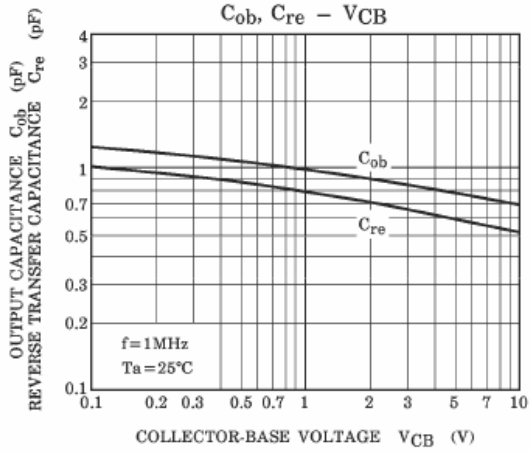
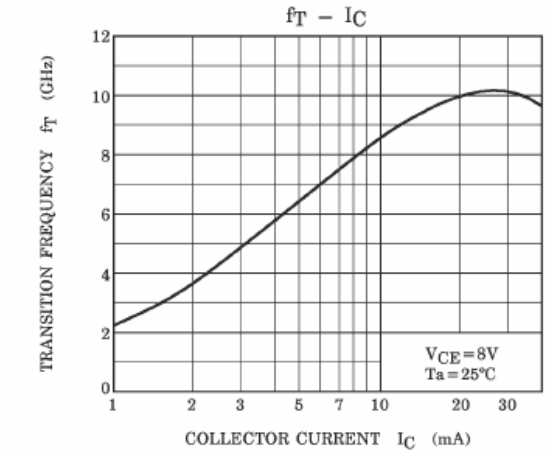
LIMITING VALUES
CHARACTERISTICS

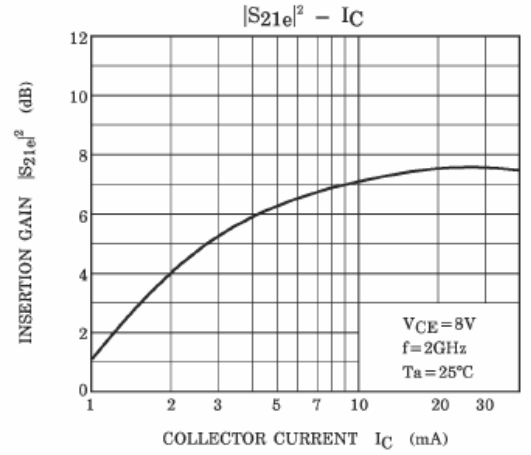
Tj=25℃ unless otherwise specified.

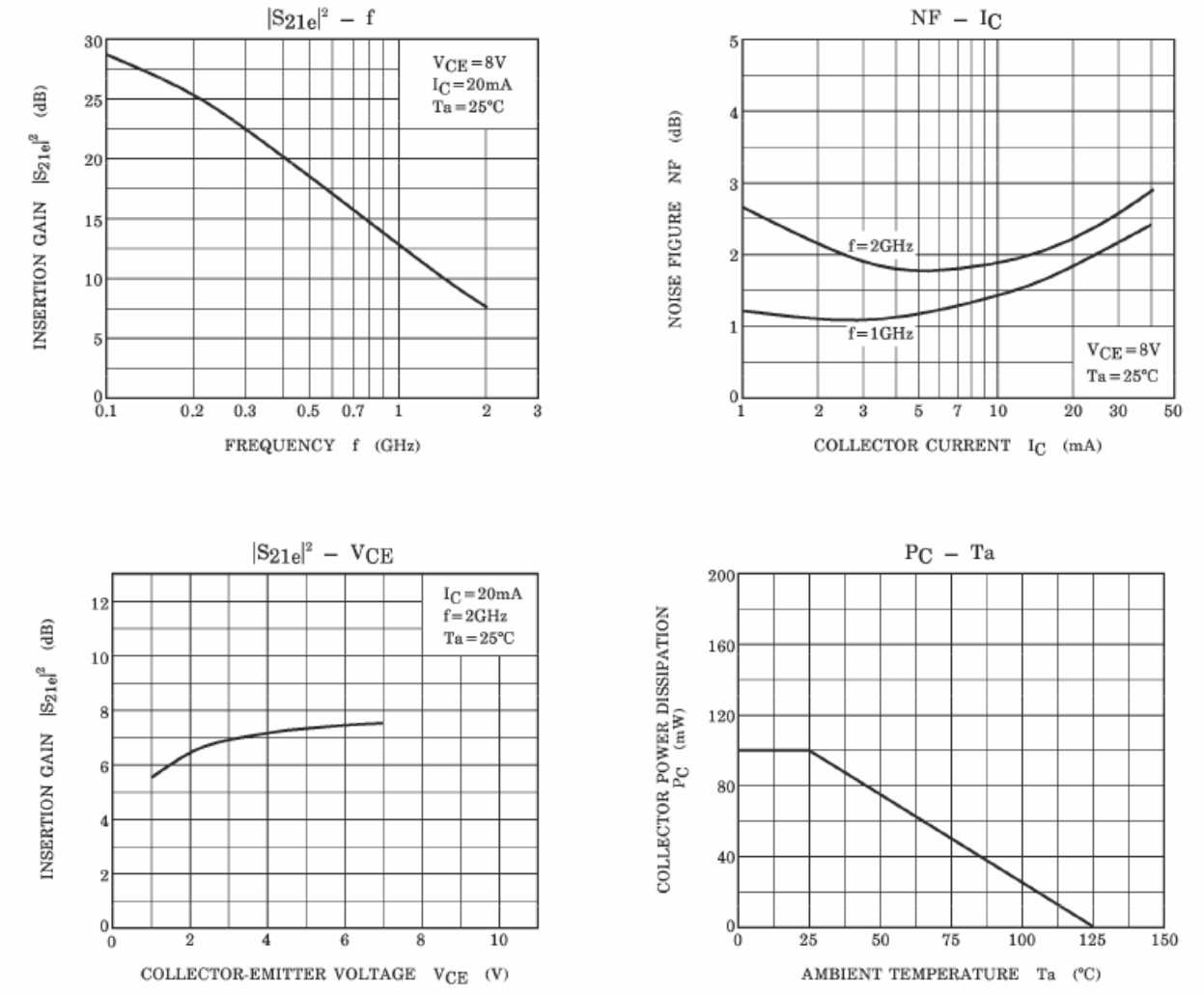
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	10	V
Emitter-Base Voltage	V_{EBO}	1.5	V
Base Current	I_B	20	mA
Collect Current	I_C	40	mA
Collector Power Dissipation	P_C	100	mW
Junction Temperature	Tj	125	℃
Storage Temperature Range	T_{stg}	-55~125	℃











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