

Silicon NPN RF Transistor

BFR520

DESCRIPTION

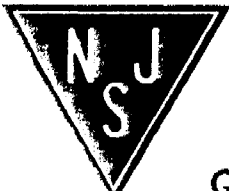
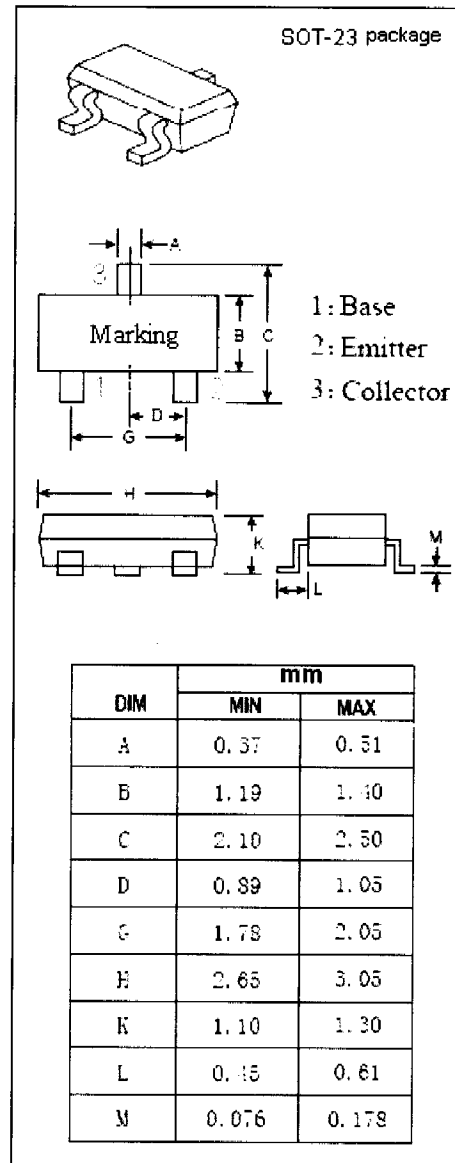
- High Power Gain
- High Current Gain Bandwidth Product
- Low Noise Figure

APPLICATIONS

- Designed for RF frontend in wideband applications in the GHz range, such as analog and digital cellular telephones, cordless.

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	20	V
V _{CES}	Collector-Emitter Voltage	15	V
V _{EBO}	Emitter-Base Voltage	2.5	V
I _C	Collector Current-Continuous	70	mA
P _C	Collector Power Dissipation @T _C =25°C	0.3	W
T _J	Junction Temperature	175	°C
T _{stg}	Storage Temperature Range	-65~150	°C



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ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I_{CBO}	Collector Cutoff Current	$V_{CB}=6\text{V}; I_E=0$			0.05	μA
h_{FE}	DC Current Gain	$I_C=20\text{mA}; V_{CE}=6\text{V}$	60		250	
f_T	Current-Gain—Bandwidth Product	$I_C=20\text{mA}; V_{CE}=6\text{V}; f=1\text{GHz}$		9		GHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=6\text{V}; f=1\text{MHz}$		0.5		pF
PG	Power Gain	$I_C=20\text{mA}; V_{CE}=6\text{V}; f=900\text{MHz}$		15		dB
PG	Power Gain	$I_C=20\text{mA}; V_{CE}=6\text{V}; f=2\text{GHz}$		9		dB
$ S_{21e} ^2$	Insertion Power Gain	$I_C=20\text{mA}; V_{CE}=6\text{V}; f=900\text{MHz}$	13	14		dB
NF	Noise Figure	$I_C=5\text{mA}; V_{CE}=6\text{V}; f=900\text{MHz}$		1.1	1.6	dB
NF	Noise Figure	$I_C=20\text{mA}; V_{CE}=6\text{V}; f=900\text{MHz}$		1.6	2.1	dB

