

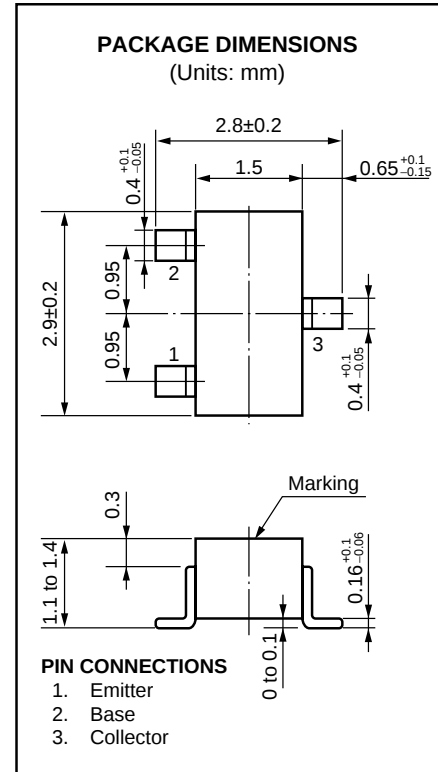
HIGH FREQUENCY LOW NOISE AMPLIFIER
NPN SILICON EPITAXIAL TRANSISTOR
MINI MOLD

FEATURES

- NF 1.5 dB TYP. @ $f = 1.0$ GHz
- MAG 14 dB TYP. @ $f = 1.0$ GHz

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

Collector to Base Voltage	V_{CB0}	25	V
Collector to Emitter Voltage	V_{CE0}	12	V
Emitter to Base Voltage	V_{EB0}	3.0	V
Collector Current	I_C	70	mA
Total Power Dissipation	P_T	250	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

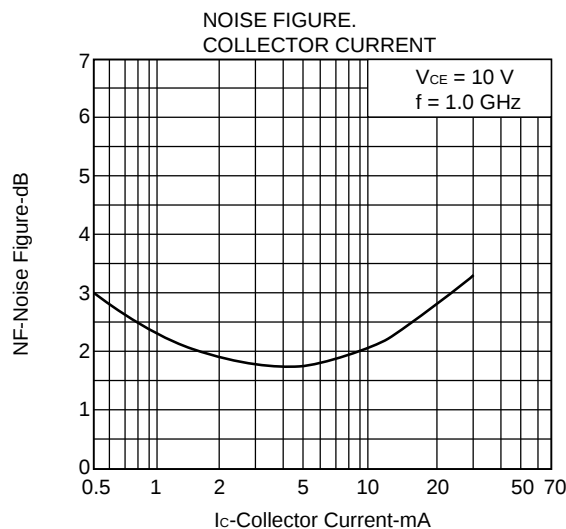
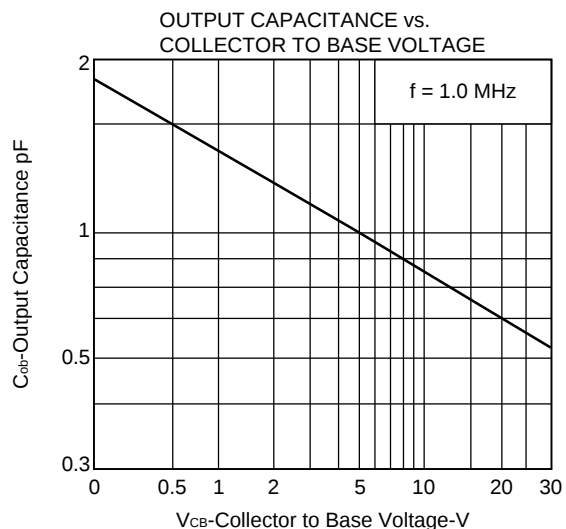
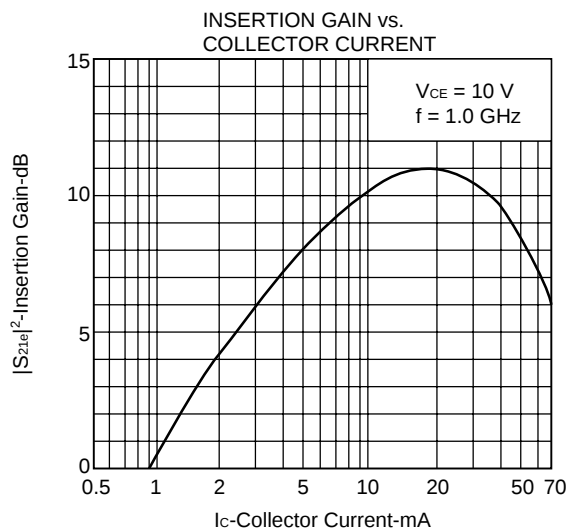
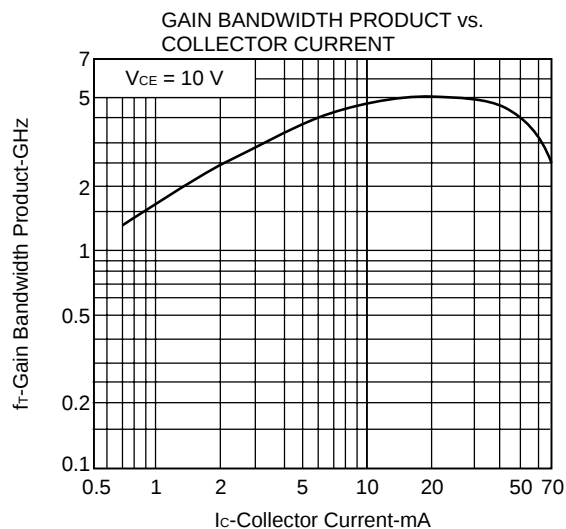
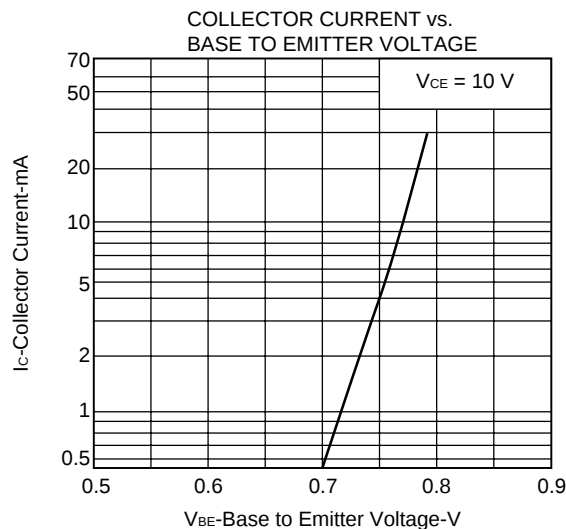
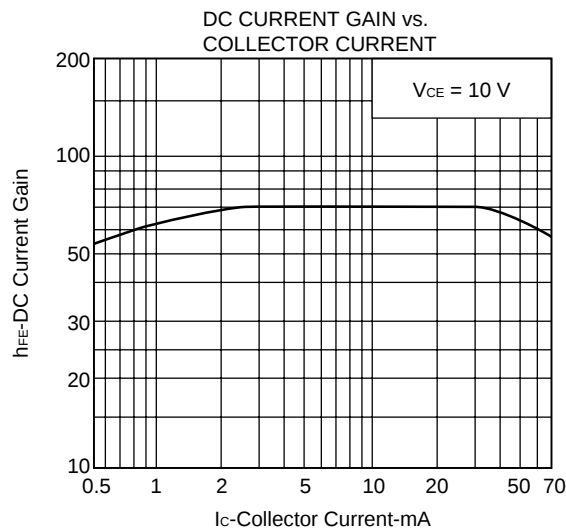
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			0.1	μA	$V_{CB} = 15\text{ V}, I_E = 0$
Emitter Cutoff Current	I_{EBO}			0.1	μA	$V_{EB} = 2.0\text{ V}, I_C = 0$
DC Current Gain	h_{FE}	40		200		$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$
Gain Bandwidth Product	f_T		4.5		GHz	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}$
Output Capacitance	C_{ob}		0.75	1.0	pF	$V_{CB} = 10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$
Insertion Power Gain	$ S_{21E} ^2$	9	11		dB	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}, f = 1.0\text{ GHz}$
Noise Figure	NF		1.5	3.0	dB	$V_{CE} = 10\text{ V}, I_C = 5\text{ mA}, f = 1.0\text{ GHz}$
Maximum Available Gain	MAG		14		dB	$V_{CE} = 10\text{ V}, I_C = 20\text{ mA}, f = 1.0\text{ GHz}$

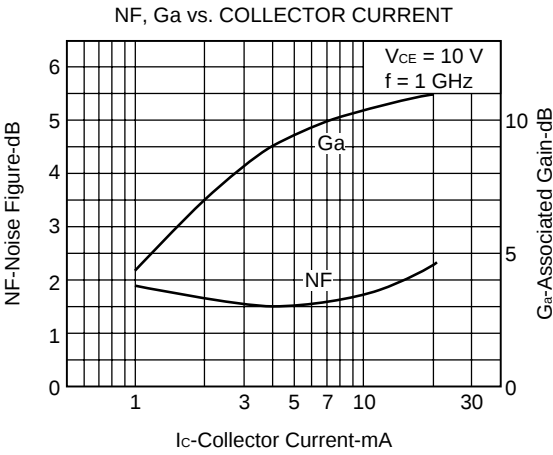
 h_{FE} Classification

Class	E/P *	F/Q *
Marking	R2	R3
h_{FE}	40 to 120	100 to 200

* Old Specification / New Specification

TYPICAL CHARACTERISTICS (T_A = 25 °C)





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NEC devices are classified into the following three quality grades:

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Special: Transportation equipment (automobiles, trains, ships, etc.), traffic control systems, anti-disaster systems, anti-crime systems, safety equipment and medical equipment (not specifically designed for life support)

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The quality grade of NEC devices is "Standard" unless otherwise specified in NEC's Data Sheets or Data Books. If customers intend to use NEC devices for applications other than those specified for Standard quality grade, they should contact an NEC sales representative in advance.

Anti-radioactive design is not implemented in this product.