ELECTRICAL CHARACTERISTICS (T_A = +25°C)

	Parameter	Symbol	Test Conditions		MIN.	TYP.	MAX.	Unit
	DC Characteristics							
	Collector Cut-off Current	I_{CBO}	V_{CB} = 20 V, I_E = 0 mA		–	–	1.5	μA
	Emitter Cut-off Current	I_{EBO}	V_{EB} = 2 V, I_C = 0 mA		–	–	1.5	μA
★	DC Current Gain	h_{FE} Note 1	V_{CE} = 5 V, I_C = 50 mA		50	–	250	–
	RF Characteristics							
★	Gain Bandwidth Product	f_T	V_{CE} = 5 V, I_C = 50 mA		–	6.0	–	GHz
	Insertion Power Gain (1)	$\|S_{21e}\|^2$	V_{CE} = 5 V, I_C = 50 mA, f = 1 GHz		6.5	8.3	–	dB
	Insertion Power Gain (2)	$\|S_{21e}\|^2$	V_{CE} = 10 V, I_C = 20 mA, f = 1 GHz		–	8.5	–	dB
	Noise Figure	NF	V_{CE} = 5 V, I_C = 50 mA, f = 1 GHz		–	2.3	3.5	dB
	Collector Capacitance	C_{ob} Note 2	V_{CB} = 5 V, I_E = 0 mA, f = 1 MHz		–	1.5	2.5	pF
★	2nd Order Intermoduration Distortion	IM_2	I_C = 50 mA, V_O = 105 dBμV/75 Ω, f = 190 – 90 MHz	V_{CE} = 5 V	–	55	–	dBc
				V_{CE} = 10 V		63	–	
★	3rd Order Intermoduration Distortion	IM_3	I_C = 50 mA, V_O = 105 dBμV/75 Ω, f = 2 × 190 – 200 MHz	V_{CE} = 5 V	–	76	–	dBc
				V_{CE} = 10 V	–	81	–	

Notes 1. Pulse measurement: PW ≤ 350 μs, Duty Cycle ≤ 2%

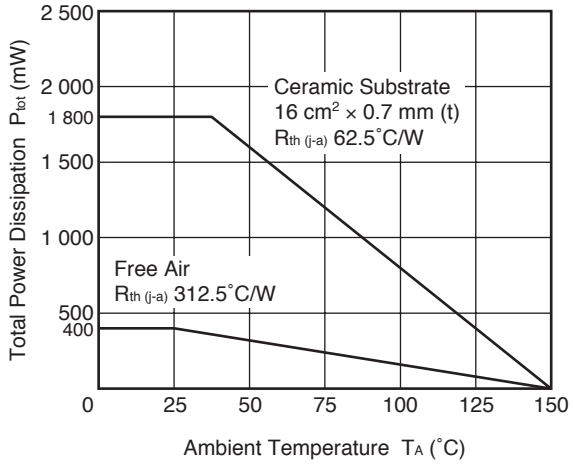
2. Collector to base capacitance when the emitter grounded

h_{FE} CLASSIFICATION

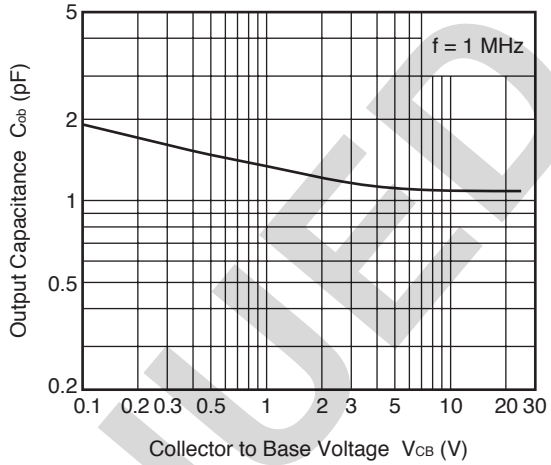
Rank	SH	SF	SE
Marking	SH	SF	SE
h_{FE} Value	50 to 100	80 to 160	125 to 250

★ TYPICAL CHARACTERISTICS (T_A = +25°C)

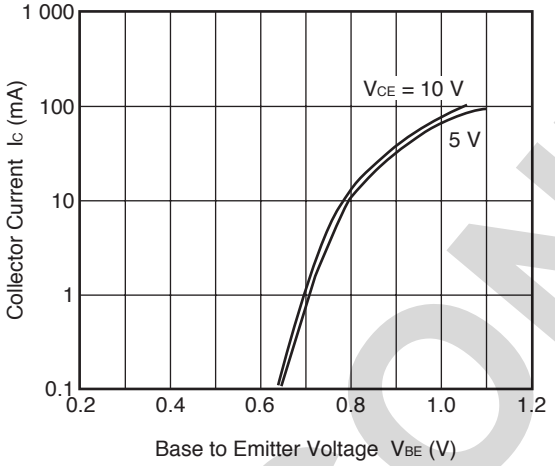
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



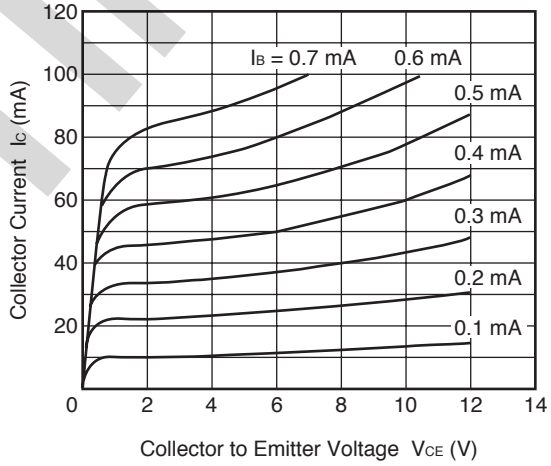
OUTPUT CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE



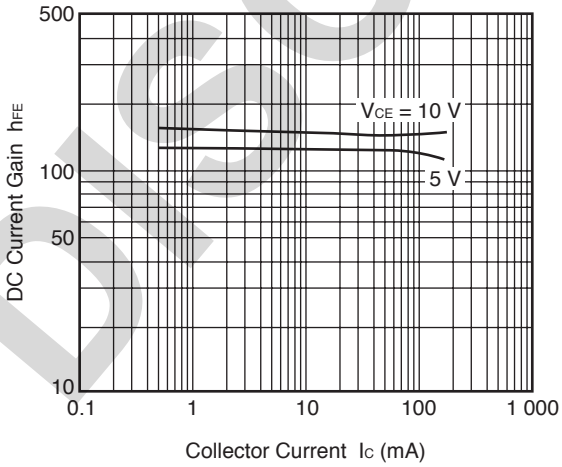
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



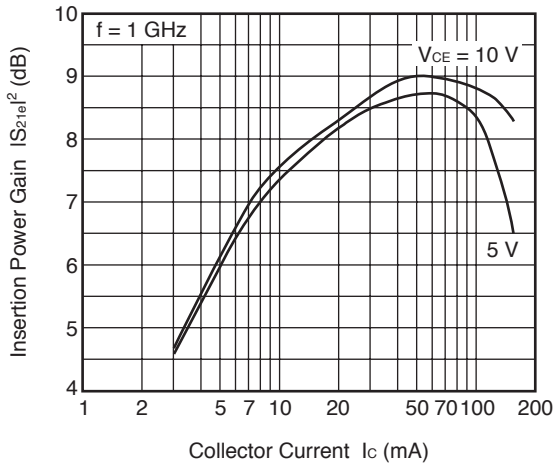
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



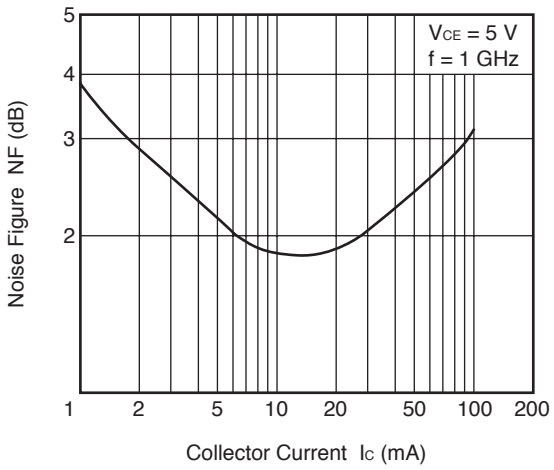
DC CURRENT GAIN vs. COLLECTOR CURRENT



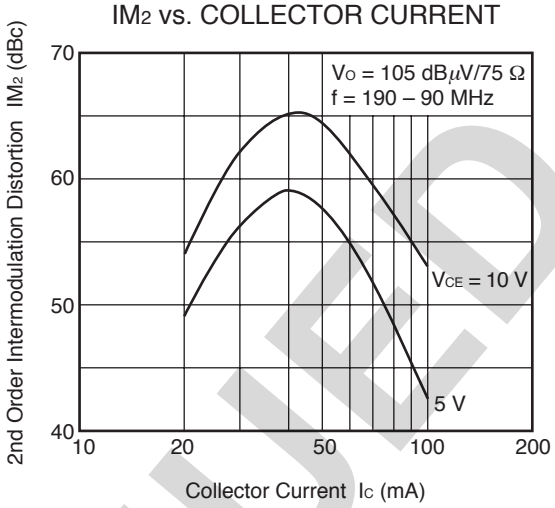
INSERTION POWER GAIN vs. COLLECTOR CURRENT



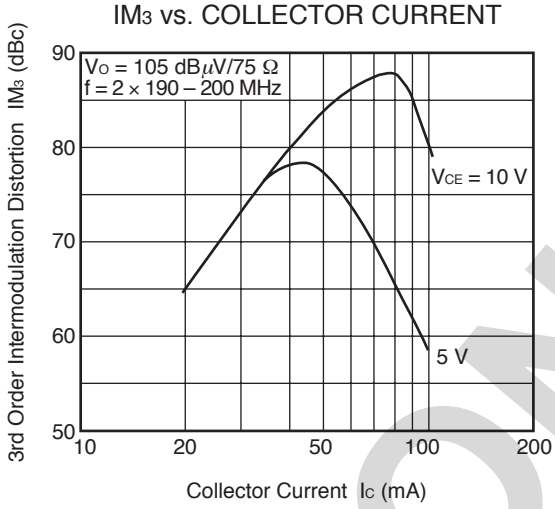
NOISE FIGURE vs.
COLLECTOR CURRENT



IM2 vs. COLLECTOR CURRENT



IM3 vs. COLLECTOR CURRENT



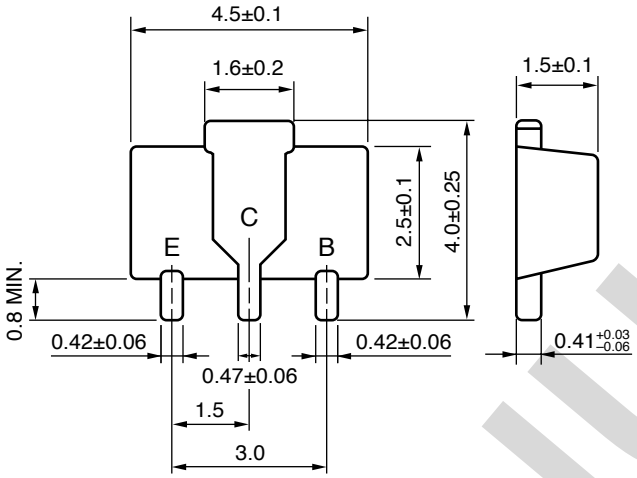
Remark The graphs indicate nominal characteristics.

S-PARAMETERS

- S-parameters and noise parameters are provided on our Web site in a format (S2P) that enables the direct import of the parameters to microwave circuit simulators without the need for keyboard inputs.
- Click here to download S-parameters.
- [RF and Microwave] ® [Device Parameters]
- URL http://www.necel.com/microwave/en/

★ PACKAGE DIMENSIONS

3-PIN POWER MINIMOLD (UNIT: mm)



PIN CONNECTIONS

E : Emitter
C : Collector (Fin)
B : Base

(IEC : SOT-89)

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