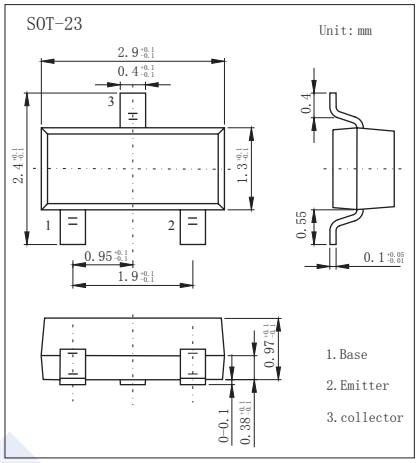
NPN Transistors

2SC3663



■ Features

- Collector Current Capability I_C=5mA
- Collector Emitter Voltage V_{CEO}=8V

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	15	V
Collector - Emitter Voltage	V_{CEO}	8	
Emitter - Base Voltage	V_{EBO}	2	
Collector Current - Continuous	I_C	5	mA
Collector Power Dissipation	P_C	50	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-65 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	15			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, I_B= 0	8			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	2			
Collector-base cut-off current	I_{CBO}	V_{CB}= 5V , I_E= 0			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 1V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=5 mA, I_B=0.5mA			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=5 mA, I_B=0.5mA			1.2	
DC current gain	h_{FE}	V_{CE}= 1V, I_C= 250uA	50		250	
Insertion Power Gain	$\|S21e\|^2$	V_{CE} = 1V, I_C = 1 mA, f=1GHz	4			dB
Maximum Available Gain	MAG	V_{CE} = 1V, I_C = 1 mA, f=1GHz		12.5		
Noise Figure	NF	V_{CE} = 1V, I_C = 250uA, f=1GHz			4.5	
Associated Power Gain	GA	V_{CE} = 1V, I_C = 250uA, f=1GHz		3.5		
Collector output capacitance	C_{ob}	V_{CB}= 1V,I_E=0, f=1MHz			0.6	pF
Transition frequency	f_T	V_{CE}= 1V, I_C=1mA		4		GHz

■ Marking

Marking	R62

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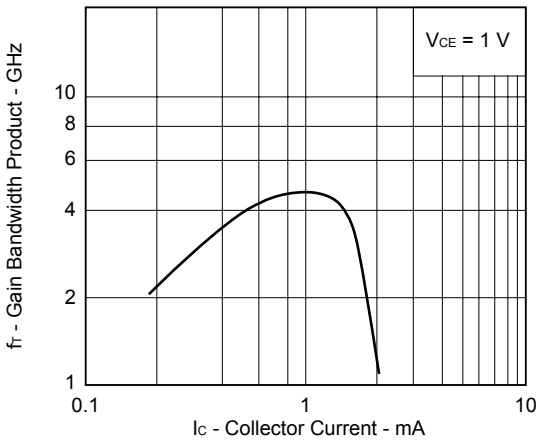
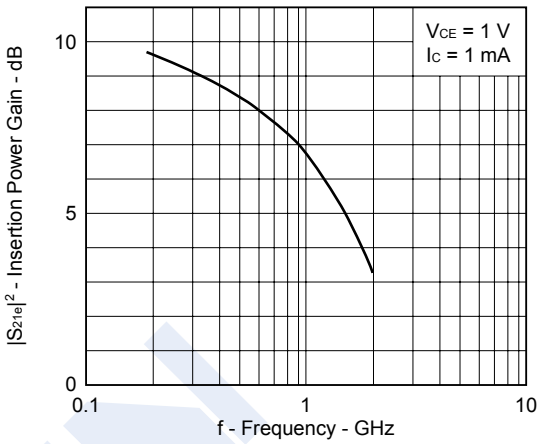
■ Typical Characterisitics

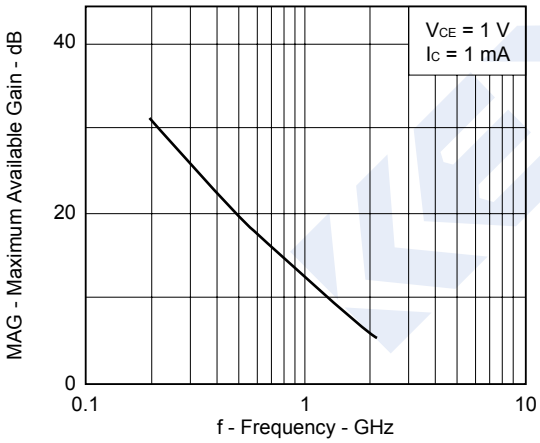
GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



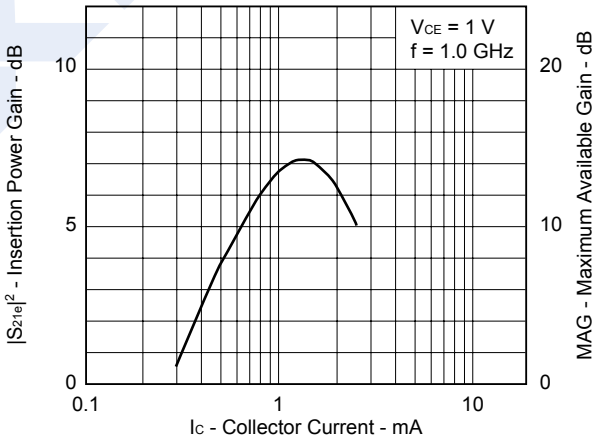
INSERTION POWER GAIN vs. FREQUENCY



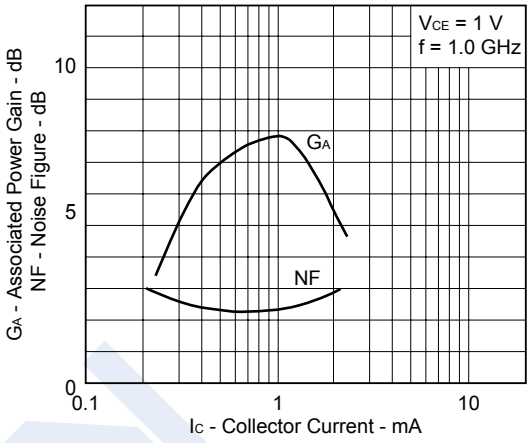
MAXIMUM AVAILABLE GAIN vs. FREQUENCY



INSERTION POWER GAIN vs. COLLECTOR CURRENT



NOISE FIGURE AND POWER GAIN AT OPUTIMUM NF vs. COLLECTOR CURRENT



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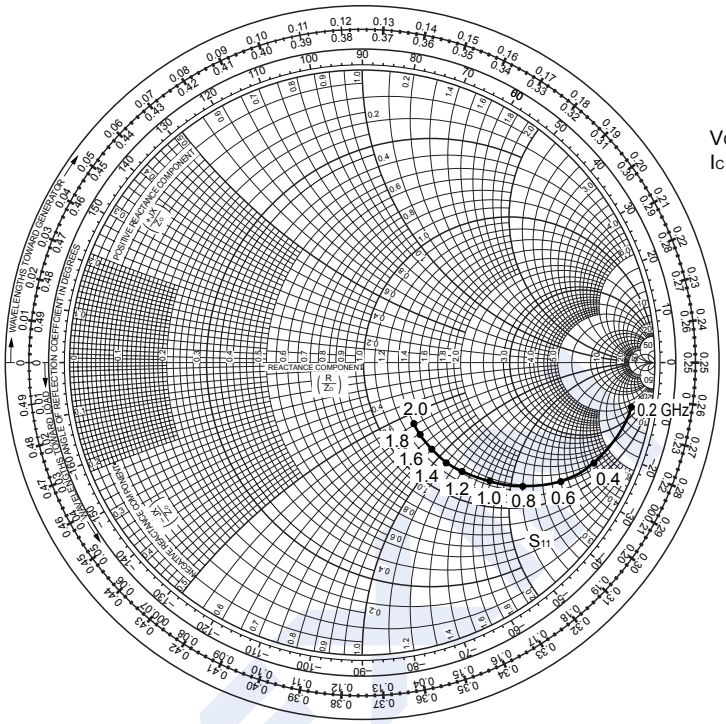
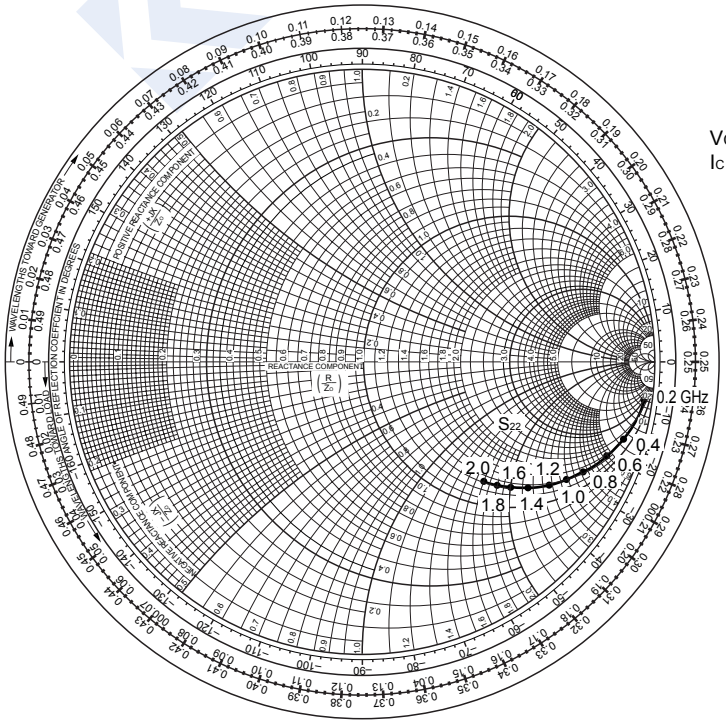
■ Typical Characterisitics



VCE = 1 V
IC = 1 mA



VCE = 1 V
IC = 1 mA