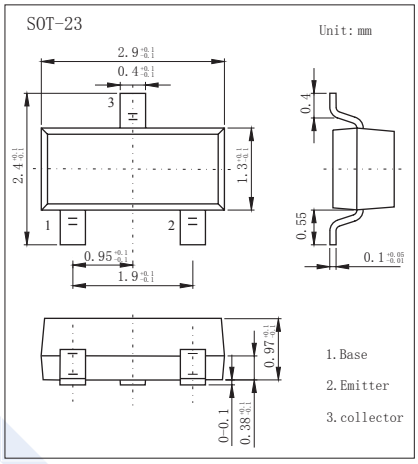
NPN Transistors

2SC3120



■ Features

- Collector Current Capability I_C=50mA
- Collector Emitter Voltage V_{CEO}=15V

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	30	V
Collector - Emitter Voltage	V_{CEO}	15	
Emitter - Base Voltage	V_{EBO}	3	
Collector Current - Continuous	I_C	50	mA
Base Current	I_B	25	
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	125	℃
Storage Temperature Range	T_{stg}	-55 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	30			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, I_B= 0	15			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	3			
Collector-base cut-off current	I_{CBO}	V_{CB}= 30 V , I_E= 0			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 2V , I_C=0			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=50 mA, I_B=5mA			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=50 mA, I_B=5mA			1.2	
DC current gain	h_{FE}	V_{CE}= 10V, I_C= 5mA	40		200	
Conversion gain	G_{ce}	V_{CC}= 10V, I_C= 2mA,f=800MHz	12			dB
Noise figure	NF	f_L=830MHz (0dBm)		8		
Reverse current capacitance	C_{re}	V_{CB}= 10V, I_E= 0,f=1MHz			0.9	pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 2mA	1.5			GHz

■ Marking

Marking	HB

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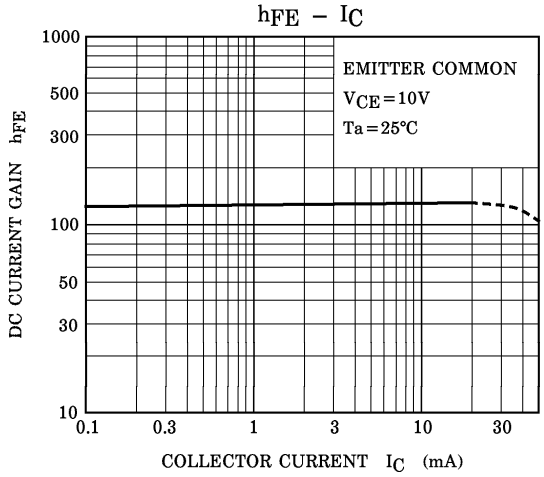
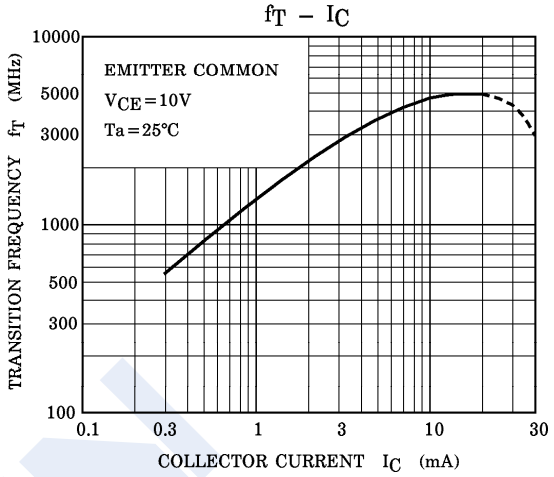
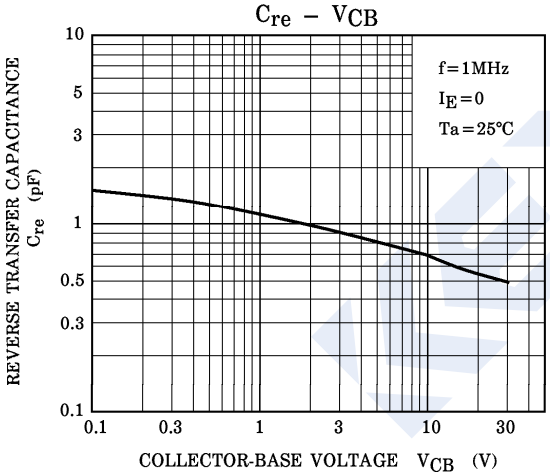
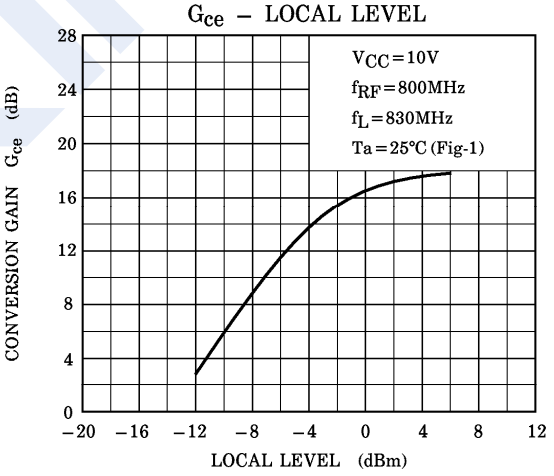
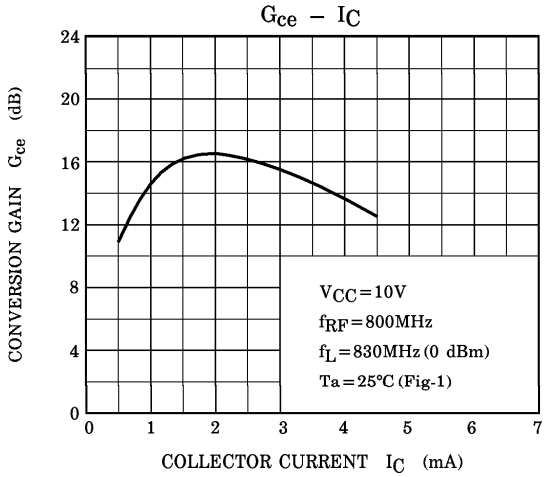
■ Typical Characterisitics

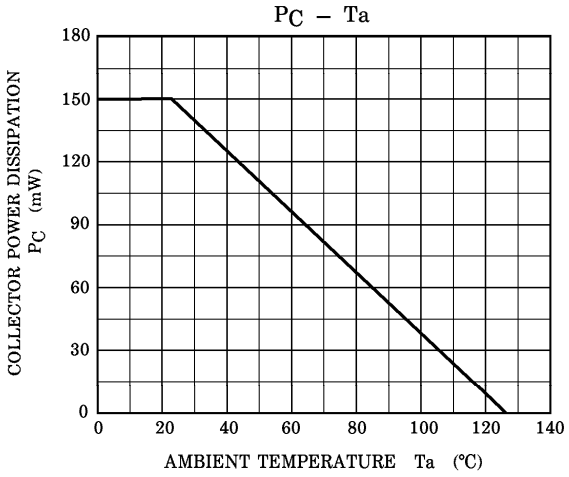












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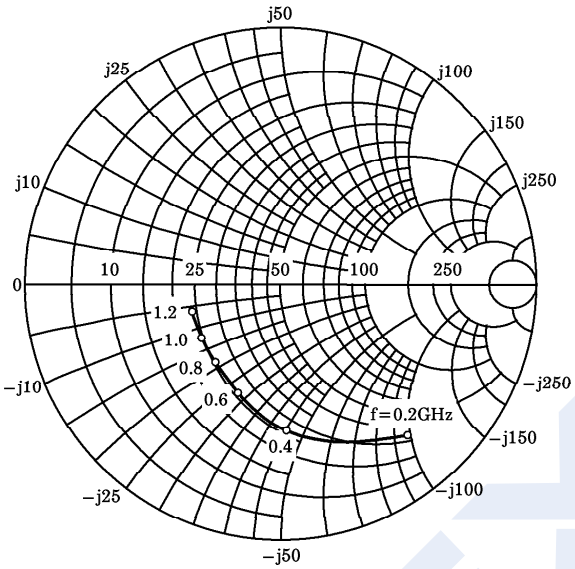
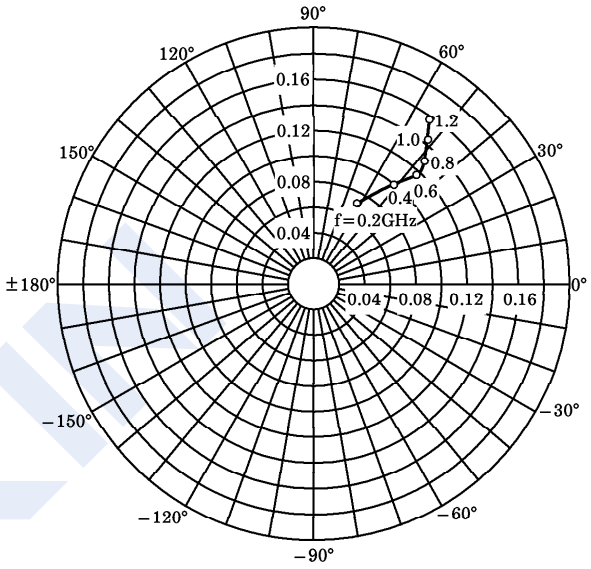
■ Typical Characterisitics

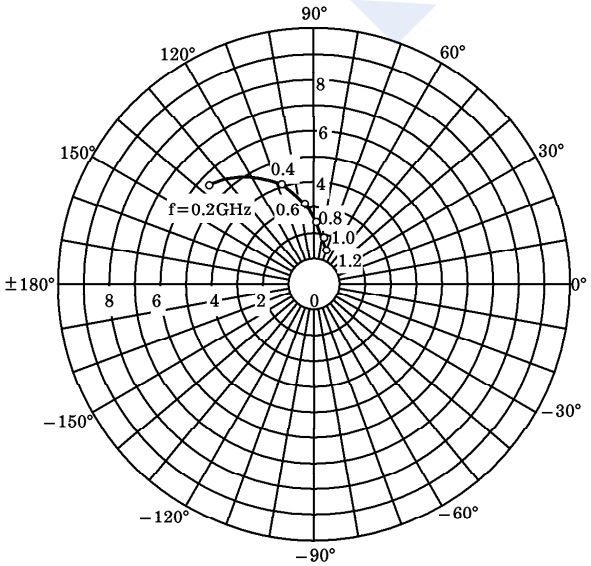
S_{11e}
$V_{CE}=10V$
$I_C=2mA$
Ta=25°C
(UNIT : Ω)



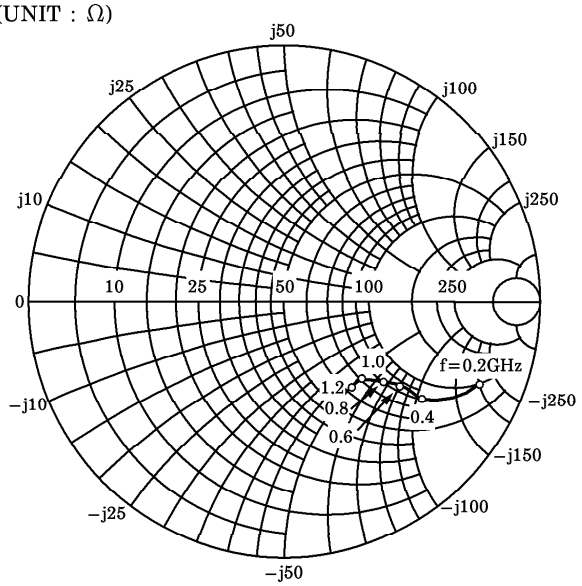
S_{12e}
$V_{CE}=10V$
$I_C=2mA$
Ta=25°C



S_{21e}
$V_{CE}=10V$
$I_C=2mA$
Ta=25°C



S_{22e}
$V_{CE}=10V$
$I_C=2mA$
Ta=25°C
(UNIT : Ω)



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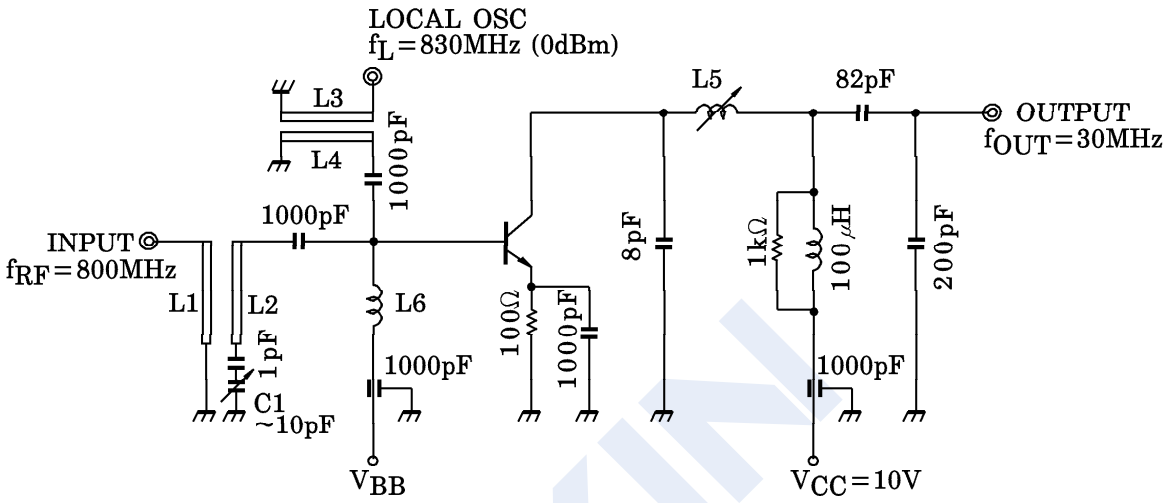
■ Typical Characterisitics

Fig.1 800MHz G_{ce}, NF TEST CIRCUIT



L1~L4 : ϕ0.8mm SILVER PLATED COPPER WIRE
L5 : AIR COIL SCN-5948 ① - ③ TOKO OR EQUIVALENT
L6 : ϕ0.2mm COPPER WIRE 10T 5mm ID
C1 : AIR TRIMMER TTA23A100 MURATA MFC. Co., LTD. OR EQUIVALENT