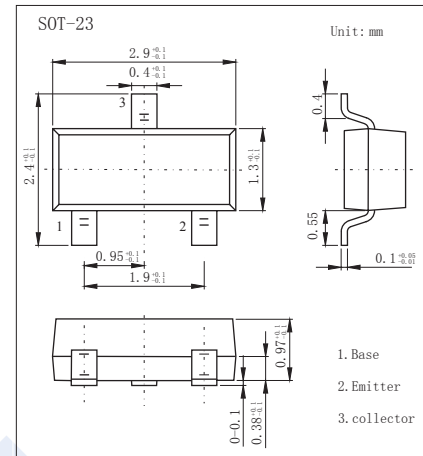


NPN Transistors

2SC3123

■ Features

- Collector Current Capability $I_C=50\text{mA}$
- Collector Emitter Voltage $V_{CE0}=20\text{V}$

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	30	V
Collector - Emitter Voltage	V_{CEO}	20	
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	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 125	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C=100\ \mu\text{A}, I_E=0$	30			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C=1\ \text{mA}, I_B=0$	20			
Emitter - base breakdown voltage	V_{EBO}	$I_E=100\ \mu\text{A}, I_C=0$	3			
Collector-base cut-off current	I_{CBO}	$V_{CB}=25\ \text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\ \text{V}, I_C=0$			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\ \text{mA}, I_B=5\ \text{mA}$			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C=50\ \text{mA}, I_B=5\ \text{mA}$			1.2	
DC current gain	h_{FE}	$V_{CE}=10\ \text{V}, I_C=5\ \text{mA}$	40		300	
Conversion gain	G_{ce}	$V_{CE}=12\ \text{V}, f=200\ \text{MHz}, f_L=260\ \text{MHz}$	20			dB
Noise figure	NF				5.5	
Reverse transfer capacitance	C_{re}	$V_{CB}=10\ \text{V}, I_E=0, f=1\ \text{MHz}$			0.5	pF
Transition frequency	f_T	$V_{CE}=10\ \text{V}, I_C=5\ \text{mA}$	900			MHz

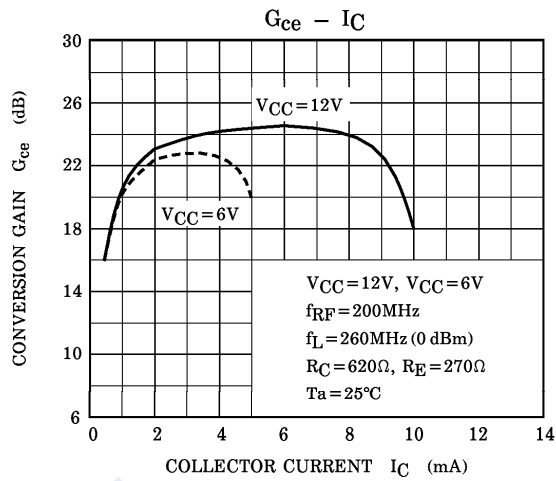
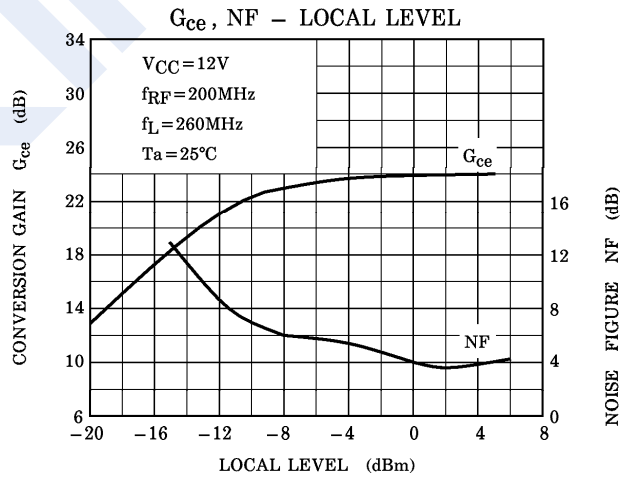
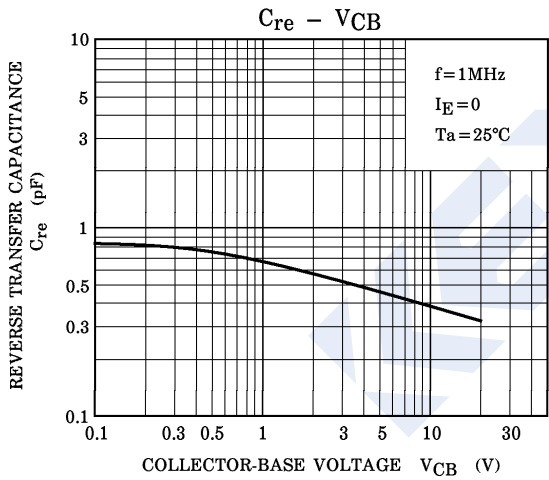
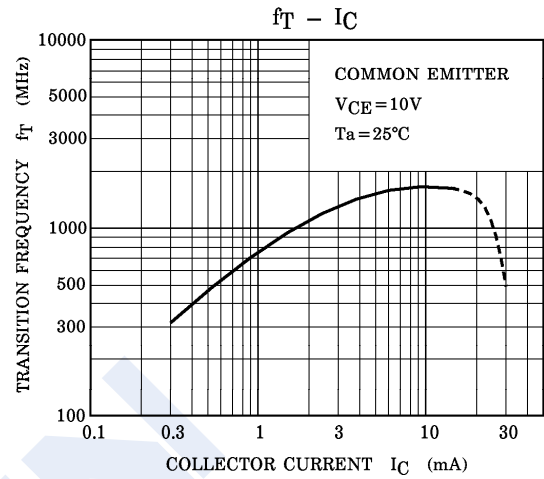
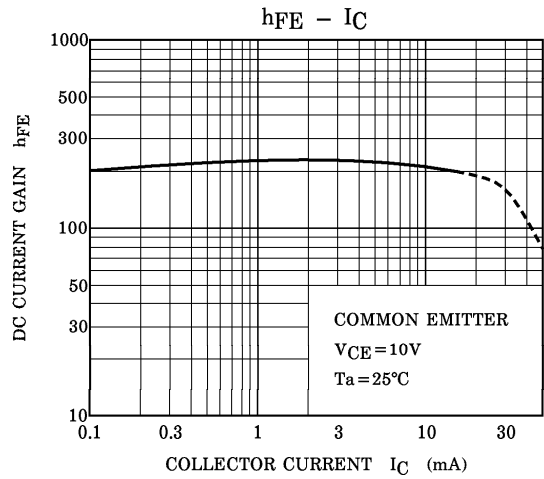
■ Marking

Marking	HE
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NPN Transistors

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■ Typical Characteristics



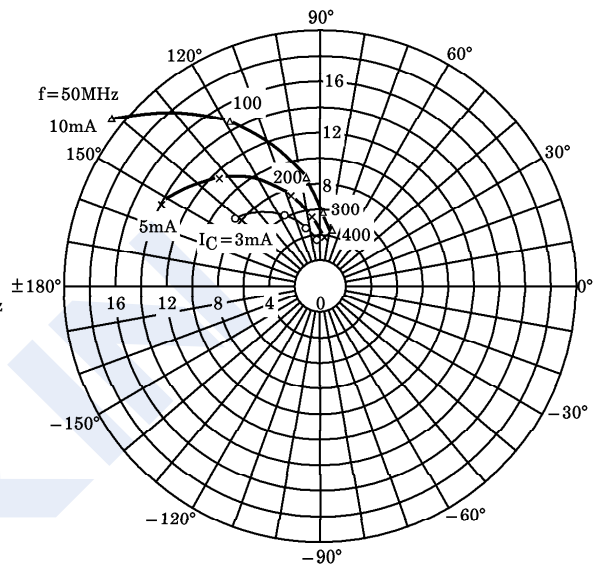
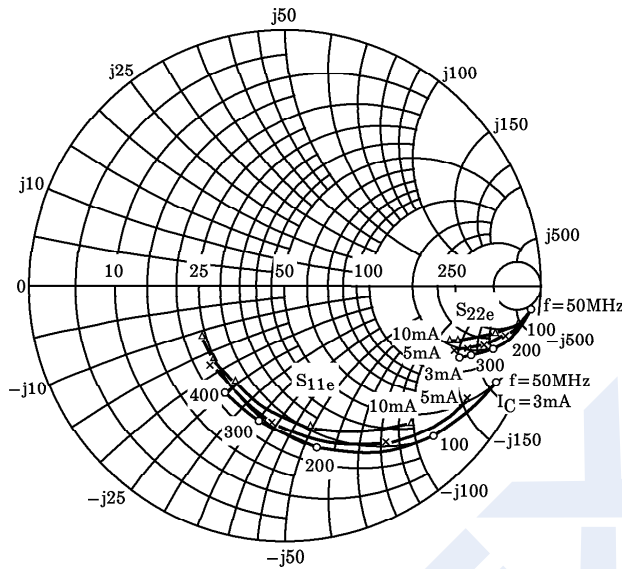
NPN Transistors

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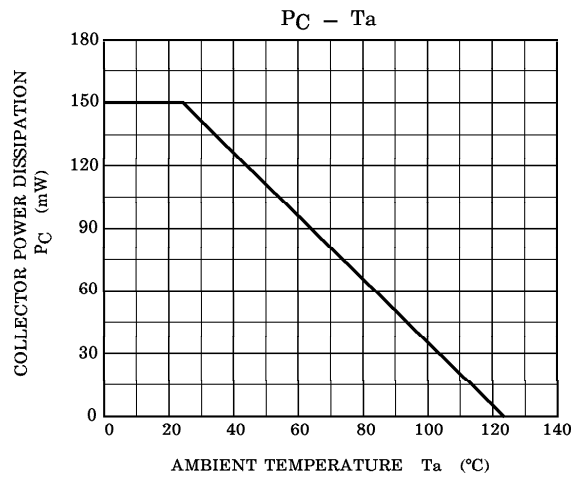
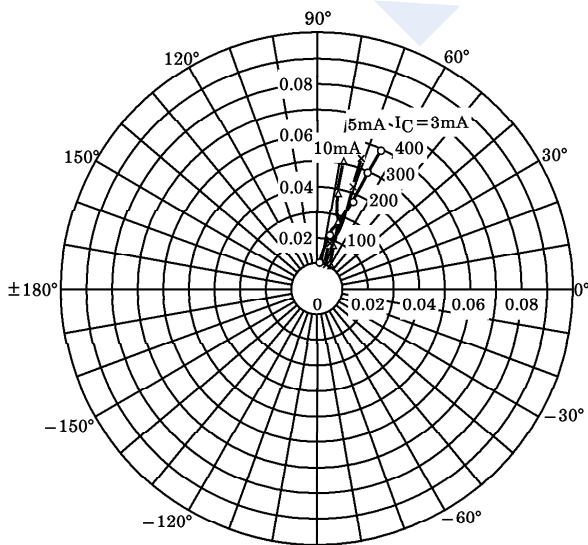
■ Typical Characteristics

S_{11e}, S_{22e}
 $V_{CE} = 10V$
 $T_a = 25^\circ C$
 (UNIT : Ω)

S_{21e}
 $V_{CE} = 10V$
 $T_a = 25^\circ C$



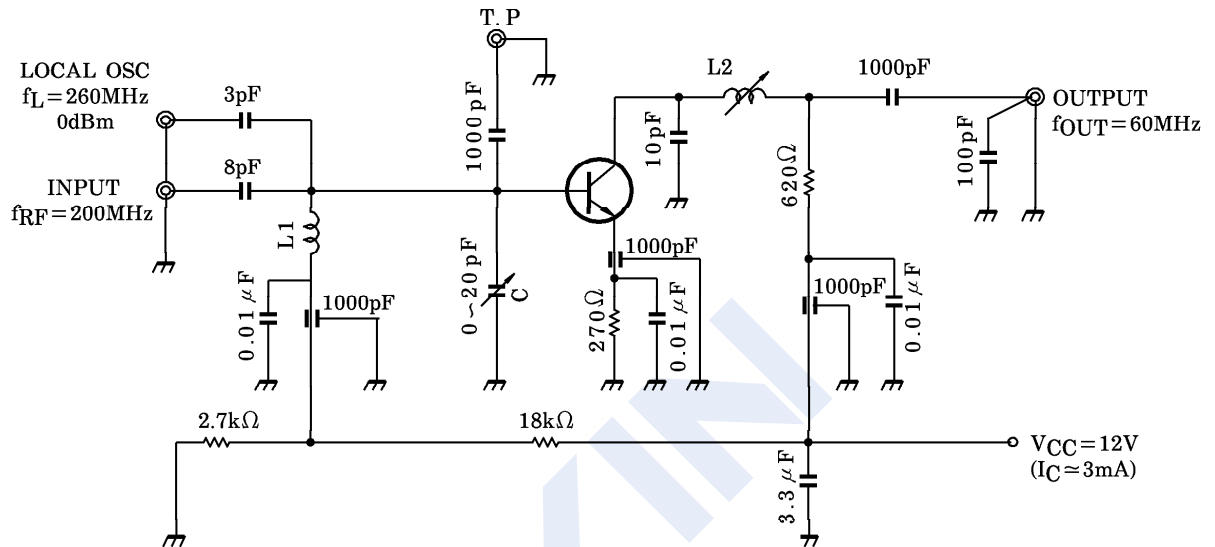
S_{12e}
 $V_{CE} = 10V$
 $T_a = 25^\circ C$



NPN Transistors

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■ Typical Characteristics

Fig.1 200MHz G_{ce} , NF TEST CIRCUIT

L1 : 0.8mm ϕ SILVER PLATED COPPER WIRE, 1.5T 5mm ID

L2 : COIL WITH CORE SCN-5962A ① - ③ (TOKO INC.) OR EQUIVALENT

C : AIR TRIMMER TTA25A200A (MURATA MFG, Co., LTD.) OR EQUIVALENT