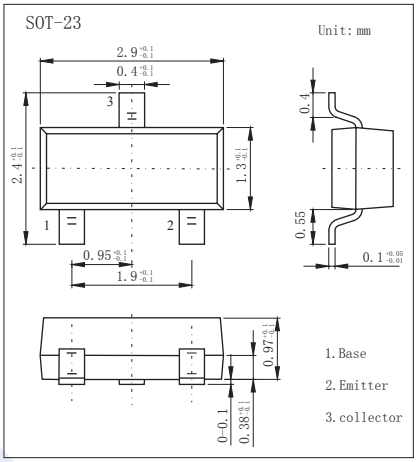
NPN Transistors

2SC2996



■ Features

- Collector Current Capability I_C=50mA
- Collector Emitter Voltage V_{CEO}=30V

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	40	V
Collector - Emitter Voltage	V_{CEO}	30	
Emitter - Base Voltage	V_{EBO}	4	
Collector Current - Continuous	I_C	50	mA
Emitter Current	I_E	-50	
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_J	125	℃
Storage Temperature Range	T_{stg}	-55 to 125	

■ 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	40			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1mA, I_B= 0	30			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	4			
Collector-base cut-off current	I_{CBO}	V_{CB}= 40 V , I_E= 0			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}=4V , I_C=0			0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=50mA, I_B=5mA			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=50mA, I_B=5mA			1.2	
DC current gain	h_{FE}	V_{CE}=6V, I_C=1mA	40		240	
Collector-base time constant	$C_{C\ rbb'}$	V_{CE}= 6 V, I_E=-1mA,f=30MHz			30	ps
Noise figure	NF	V_{CE}= 6V,I_E=-1mA,f=100MHz		4		dB
Power gain	PG			15		
Oscillation output voltage	V_{OSC}	V_{CE}= 6V, f=100MHz		150		mV
Common emitter reverse transfer capacitance	C_{re}	V_{CE}= 6V,f=1MHz			1.3	pF
Transition frequency	f_T	V_{CE}= 6 V, I_E= -1mA	150			MHz

■ Classification of h_{fe}

Type	2SC2996-R	2SC2996-O	2SC2996-Y
Range	40-80	70-140	120-240
Marking	GR	GO	GY

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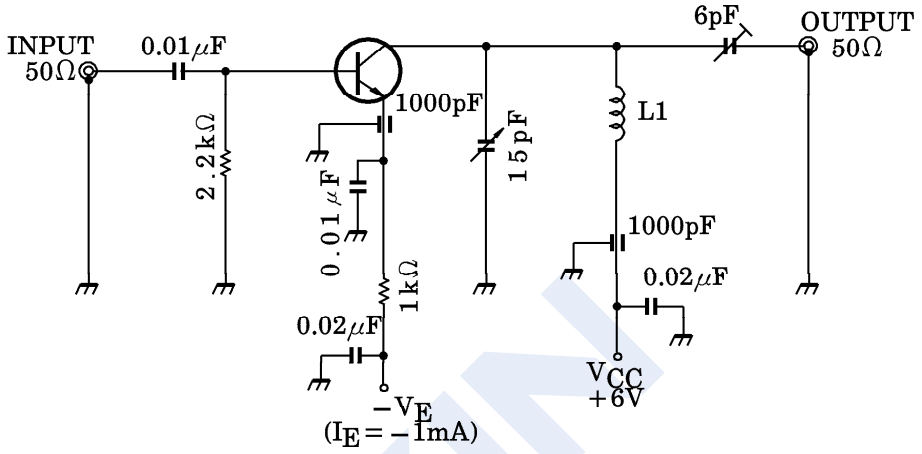
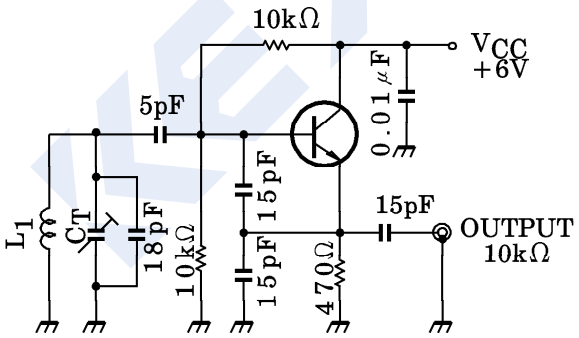
■ Typical Characterisitics

Fig.1 NF, G_{pe} TEST CIRCUIT



L_1 : 0.8mmϕ SILVER PLATED COPPER WIRE, 4T, 10ID, 8 LENGTH

Fig.2 V_{OSC} TEST CIRCUIT



L_1 : 0.8mmϕ SILVER PLATED COPPER WIRE, 4T, 10ID, 8 LENGTH

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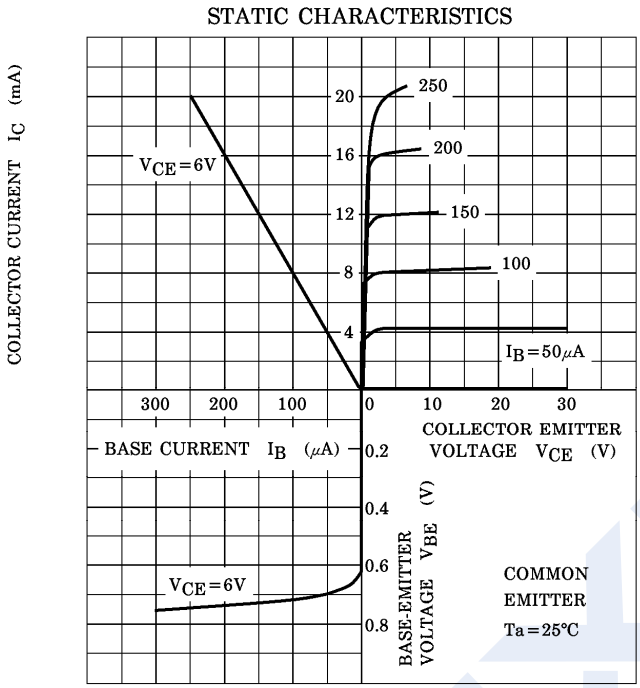
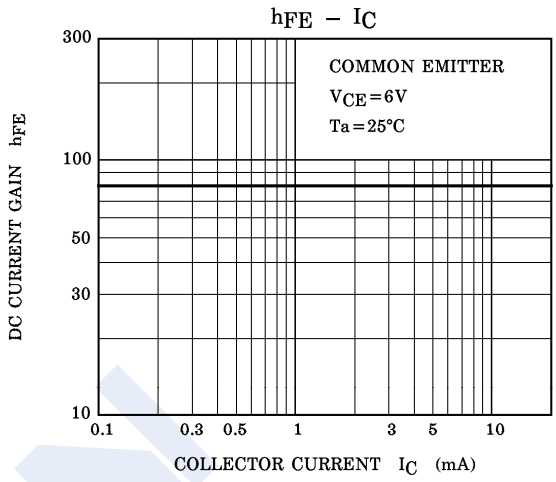
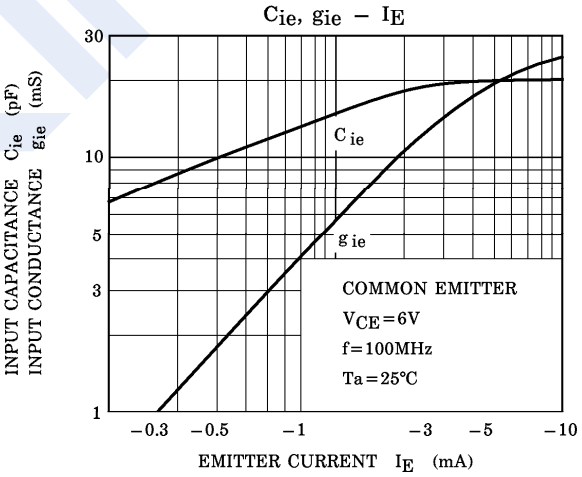
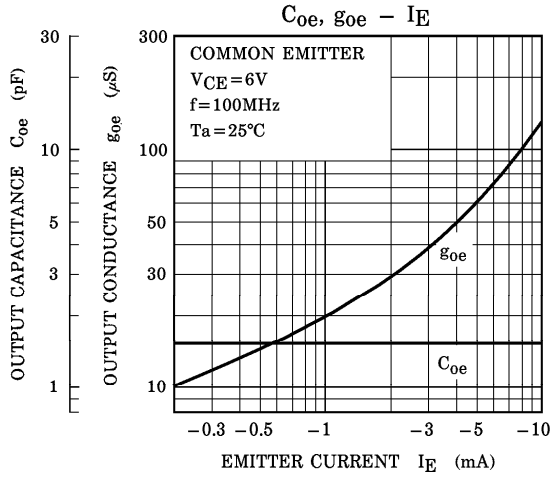
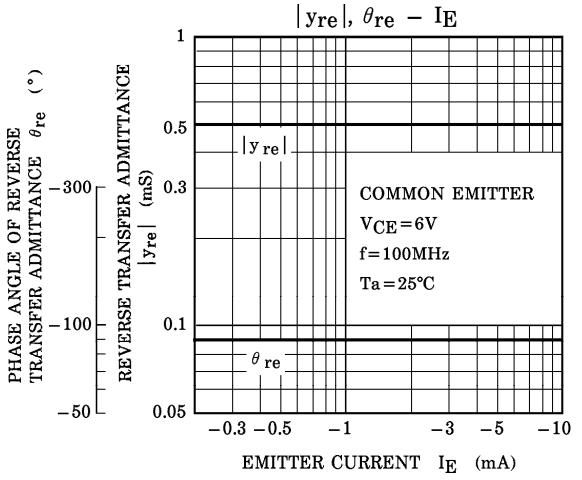
■ Typical Characterisitics











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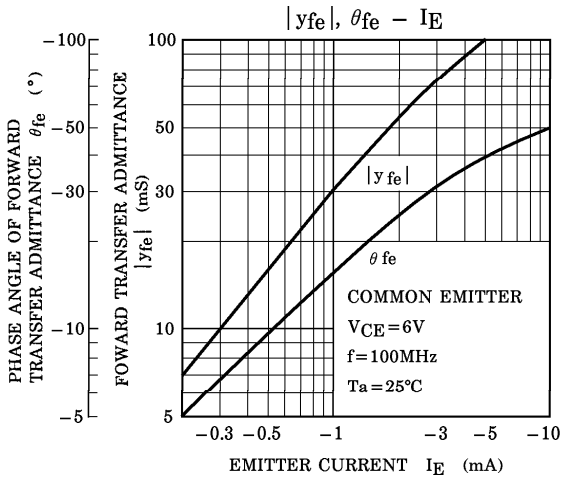
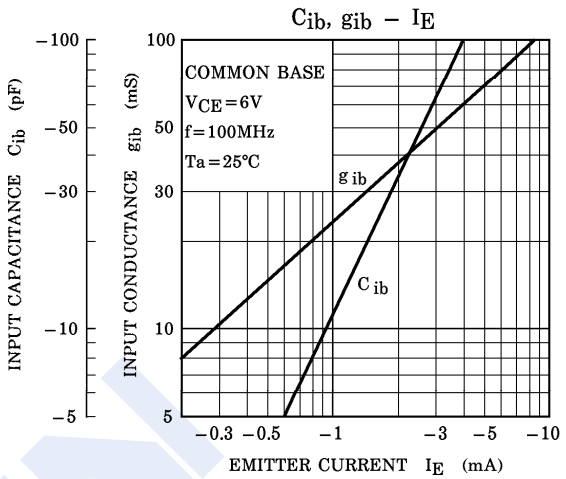
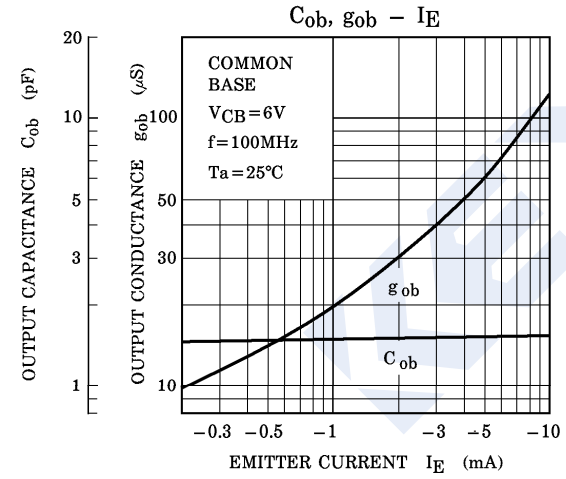
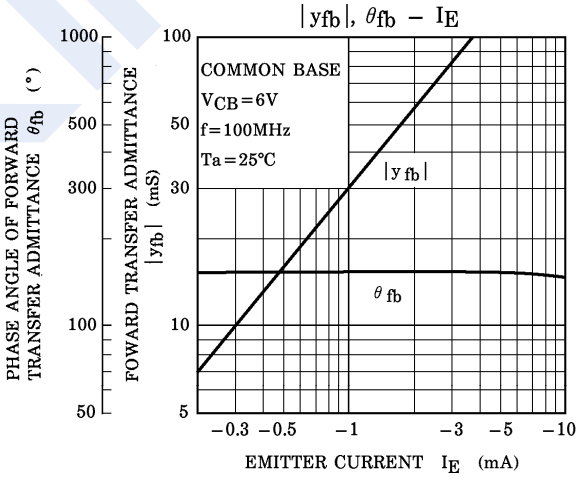
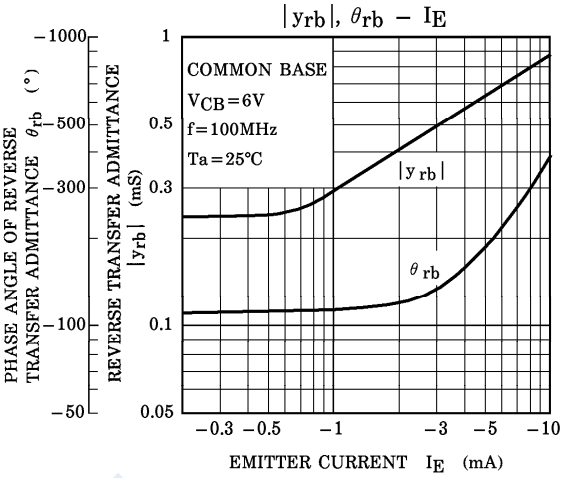
■ Typical Characterisitics

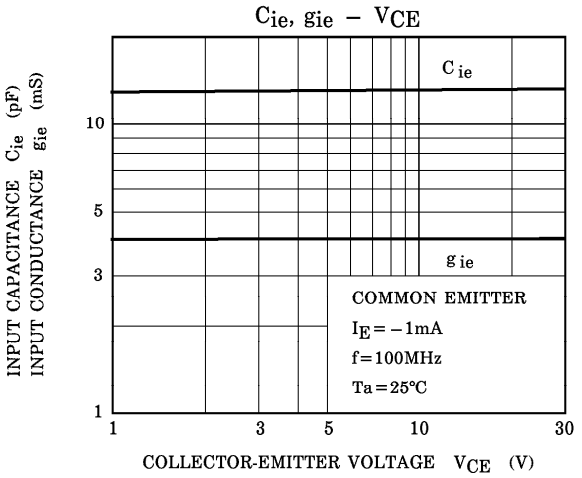












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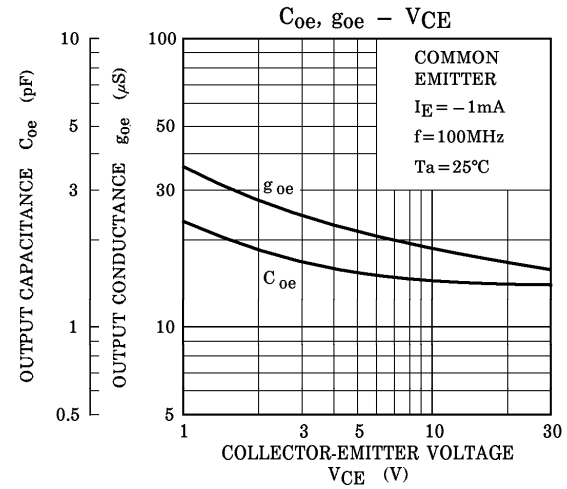
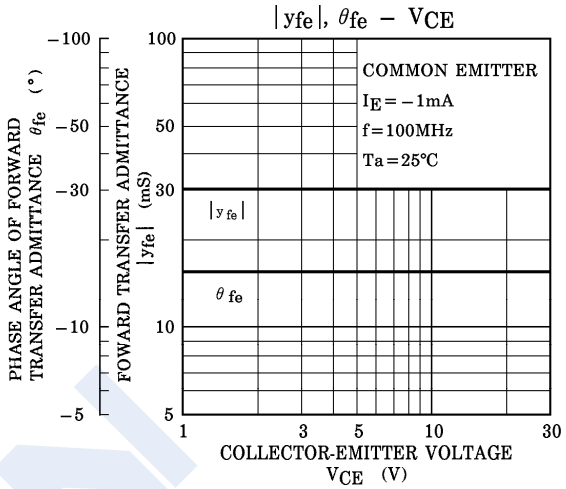
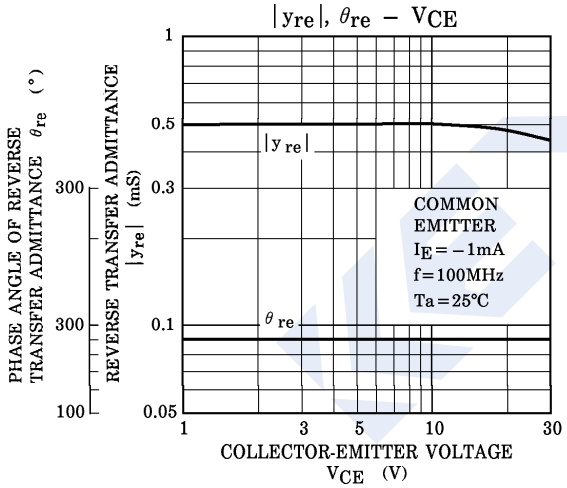
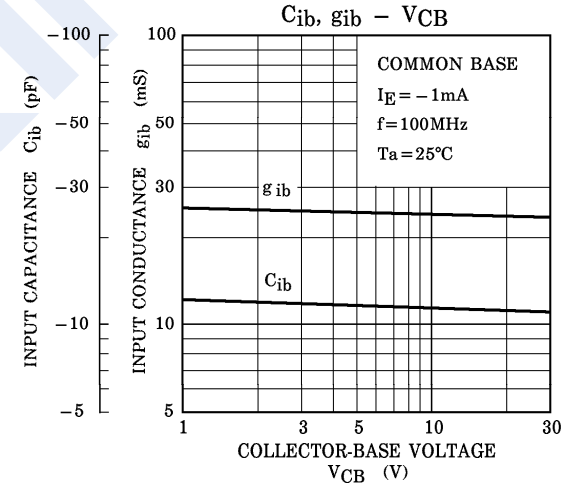
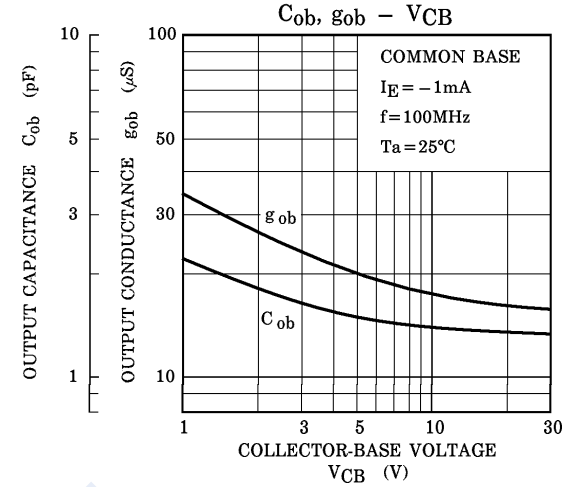
■ Typical Characterisitics

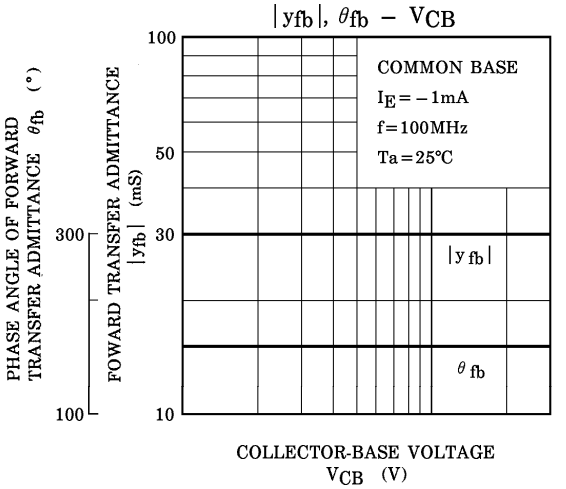












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■ Typical Characterisitics