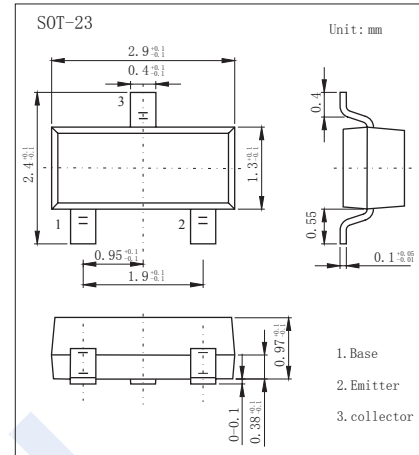


PNP Transistors

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■ Features

- High f_T (230MHz typ), and small C_{re} (1.1pF typ).
- Small NF (2.5dB typ).

■ 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	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-30	mA
Collector dissipation	P_C	150	mW
Junction temperature	T_J	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

■ 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}	$I_E = -100 \mu\text{A}, I_C = 0$	-5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = -10 \text{ V}, I_E = 0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4 \text{ V}, I_C = 0$			-100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -20 \text{ mA}, I_B = -1 \text{ mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -20 \text{ mA}, I_B = -1 \text{ mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = -6 \text{ V}, I_C = -1 \text{ mA}$	60		270	
Noise figure	NF	$V_{CE} = -6 \text{ V}, I_C = -1 \text{ mA}, f = 100 \text{ MHz}$		2.5		dB
Voltage gain	PG			22		
Base-collector time constant	r_{bb}, C_c	$V_{CE} = -6 \text{ V}, I_C = -1 \text{ mA}, f = 31.9 \text{ MHz}$		11	20	ps
Collector output capacitance	C_{re}	$V_{CB} = -6 \text{ V}, f = 10 \text{ MHz}$		1.1	1.7	pF
Transition frequency	f_T	$V_{CE} = -6 \text{ V}, I_C = -1 \text{ mA}$	150	230		MHz

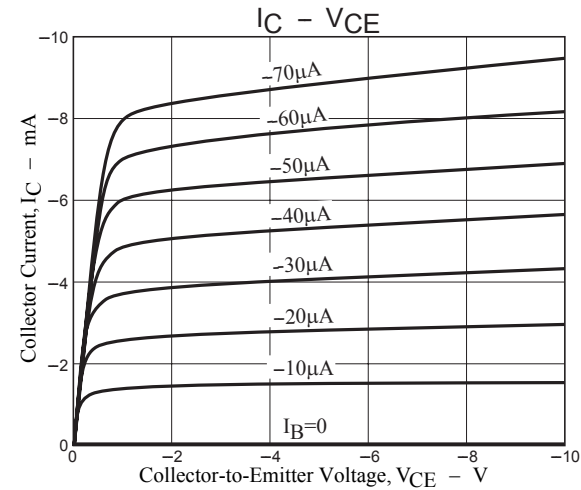
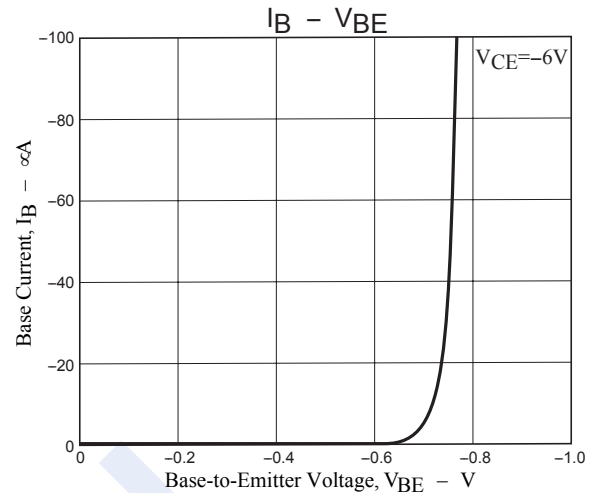
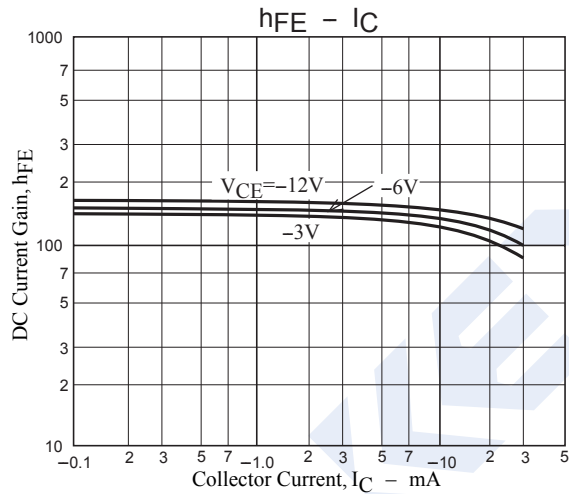
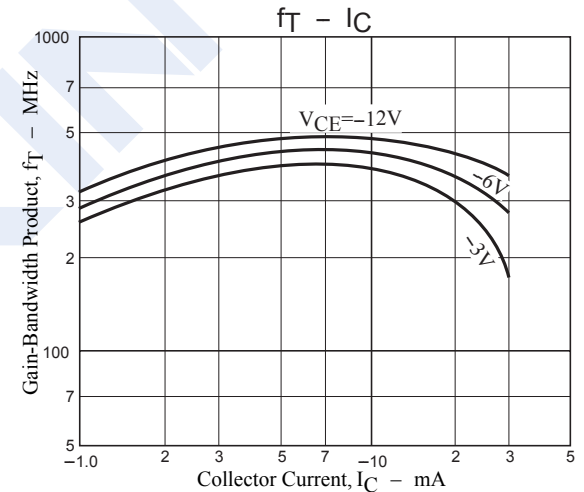
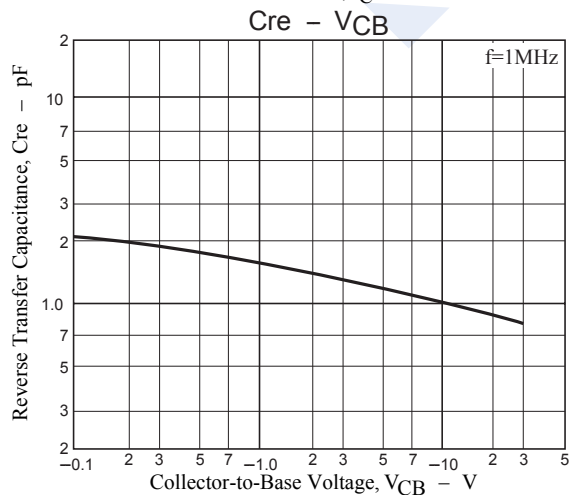
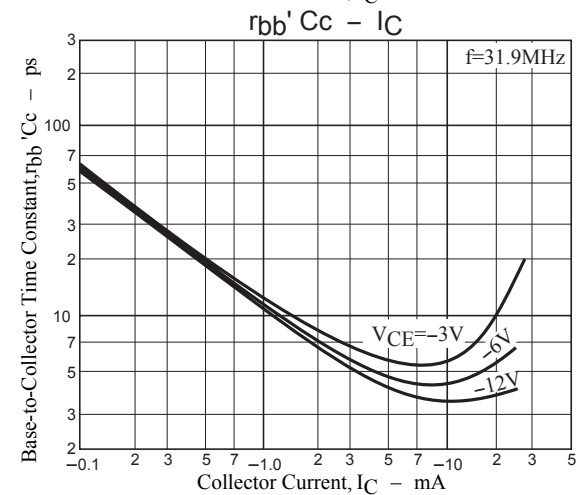
■ Classification of h_{FE}

Type	2SA1256-E3	2SA1256-E4	2SA1256-E5
Range	60-120	90-180	135-270
Marking	E3	E4	E5

PNP Transistors

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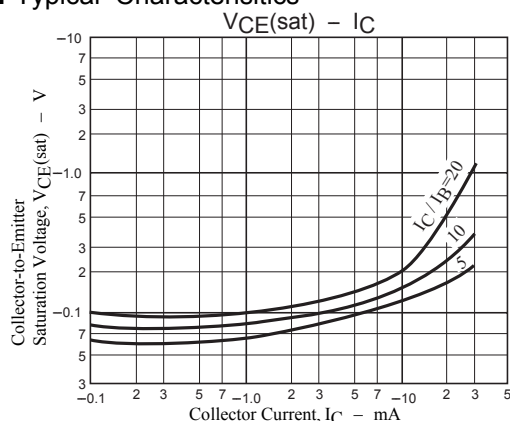
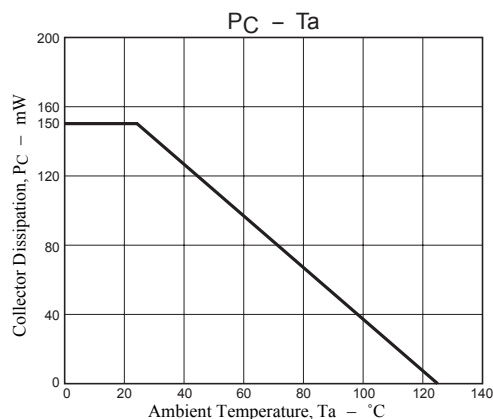
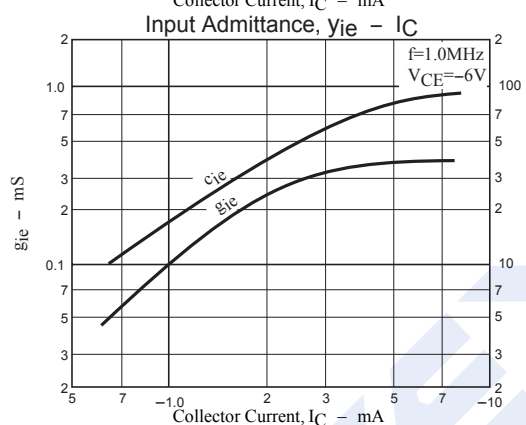
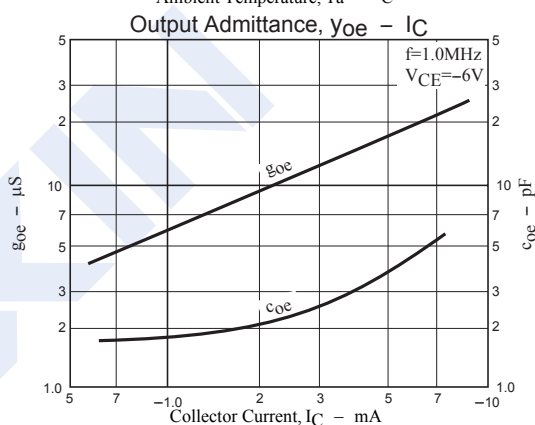
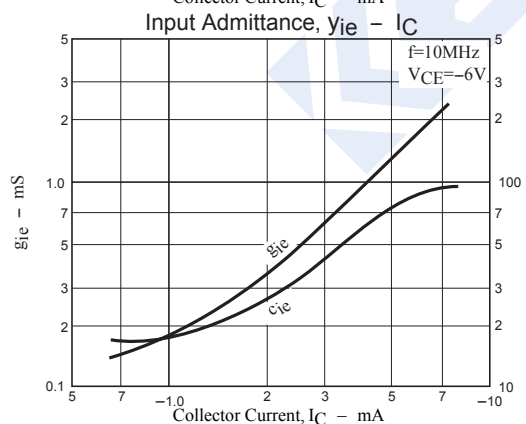
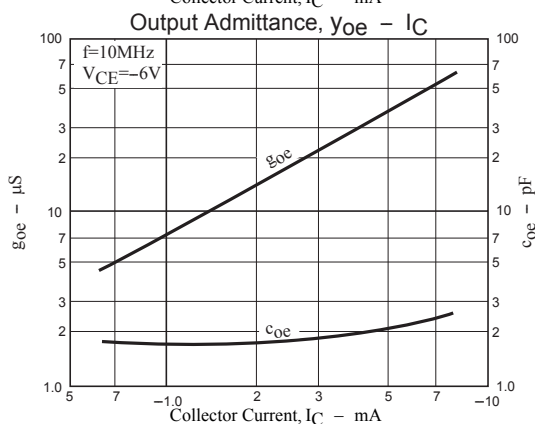
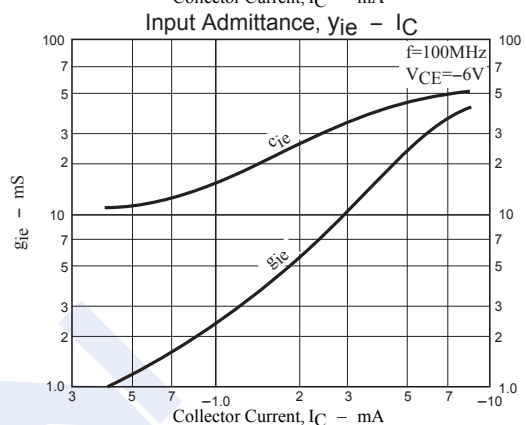
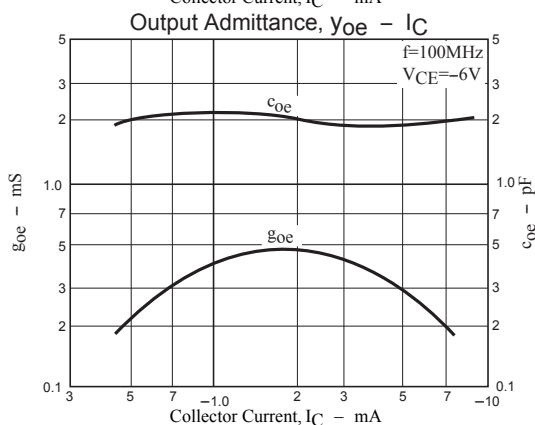
■ Typical Characteristics



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■ Typical Characteristics



PNP Transistors

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■ Typical Characteristics

