

**2SA1256**

High Frequency Amp Applications

Applications

- Ideally suited for use in FM RF amplifiers, mixers, oscillators, converters, and IF amplifiers.

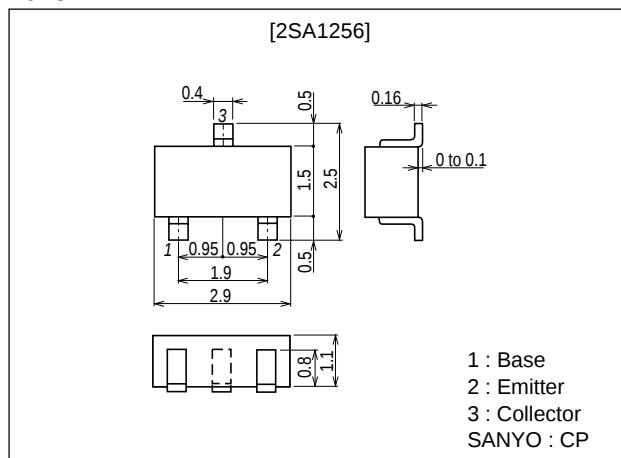
Features

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

Package Dimensions

unit:mm

2018B



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-30	V
Collector-to-Emitter Voltage	V_{CEO}		-20	V
Emitter-to-Base Voltage	V_{EBO}		-5	V
Collector Current	I_C		-30	mA
Collector Dissipation	P_C		150	W
Junction Temperature	T_J		125	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +125	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)10\text{V}, I_E=0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=(-)6\text{V}, I_C=(-)1\text{mA}$	60*		270*	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)6\text{V}, I_C=(-)1\text{mA}$	150	230		MHz
Reverse Transfer Capacitance	C_{re}	$V_{CB}=-6\text{V}, f=1\text{MHz}$		1.1	1.7	pF
Base-to-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
Noise Figure	NF	$V_{CE}=-6\text{V}, I_C=-1\text{mA}, f=100\text{MHz}$		2.5		dB
Voltage Gain	PG	$V_{CE}=-6\text{V}, I_C=-1\text{mA}, f=100\text{MHz}$		22		dB

* : The 2SA1256 is classified by 1mA h_{FE} as follows :

Rank	E3	E4	E5
h_{FE}	60 to 120	90 to 180	135 to 180

Note : Marking : E

 h_{FE} rank : 3, 4, 5

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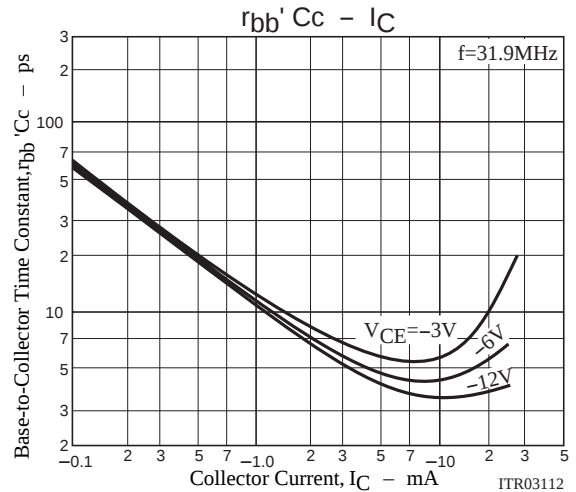
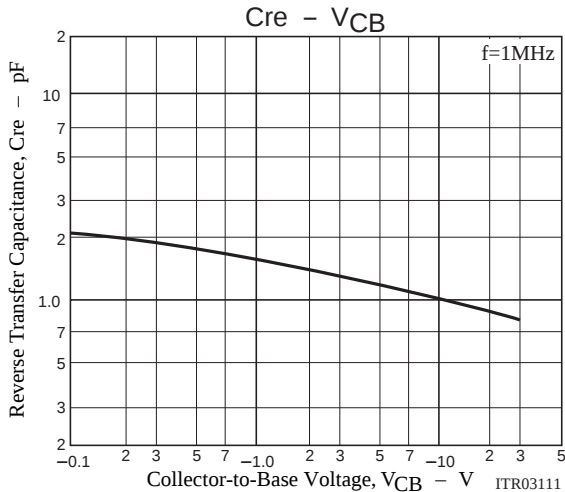
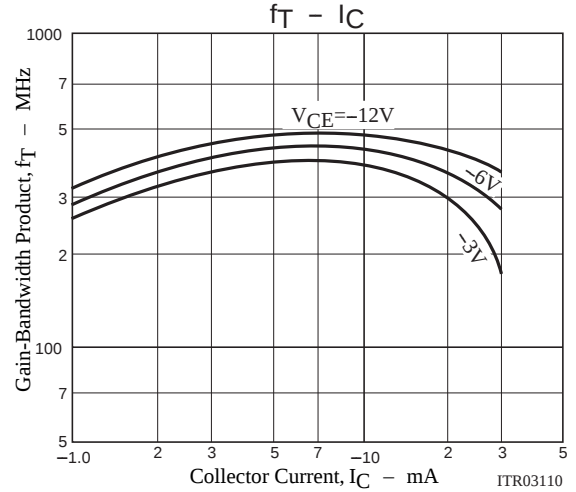
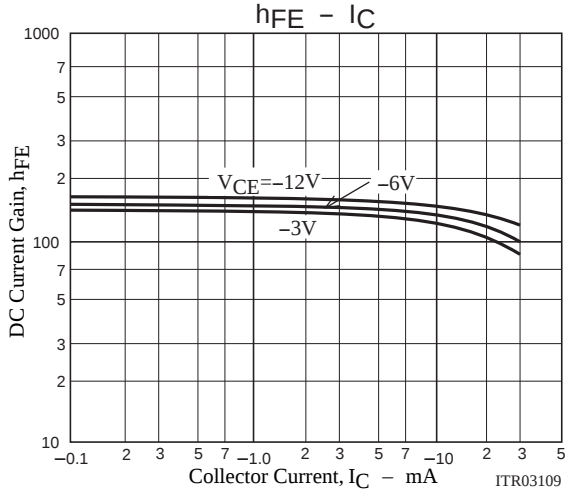
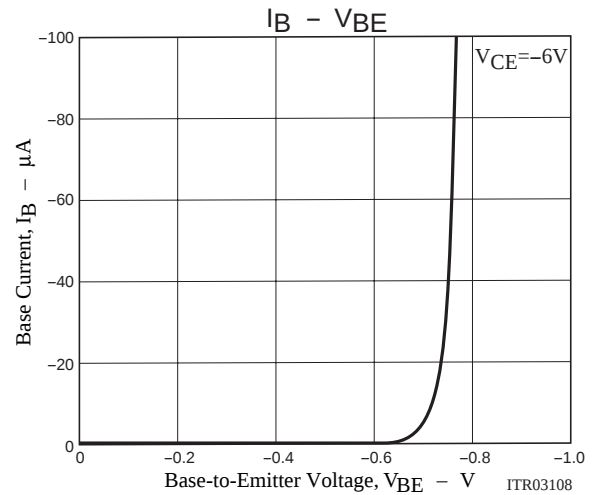
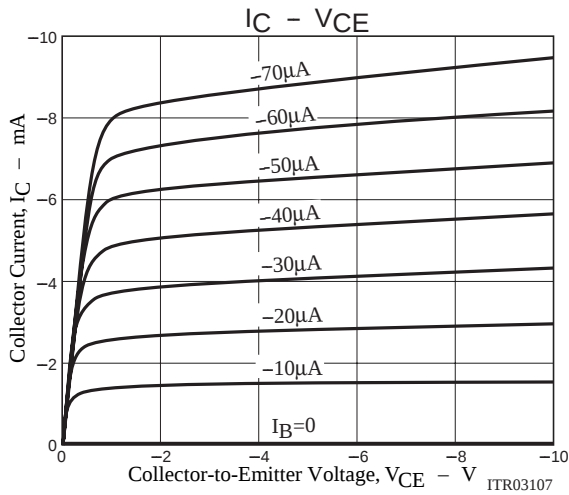
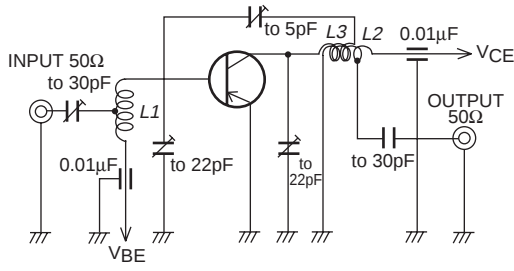
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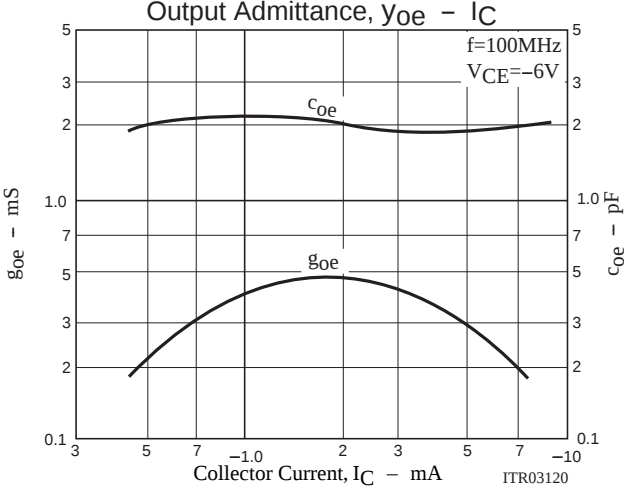
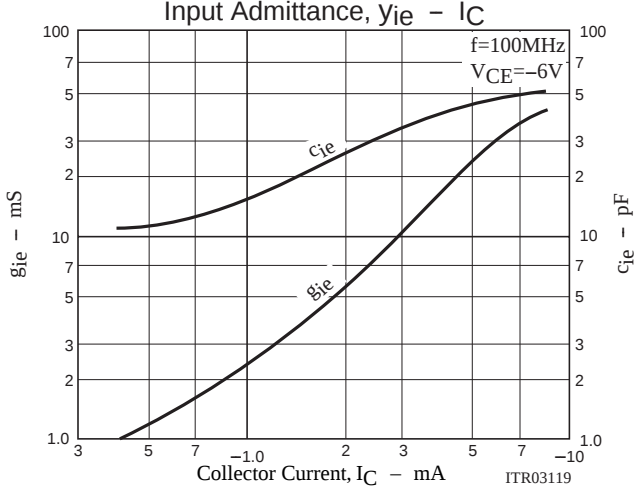
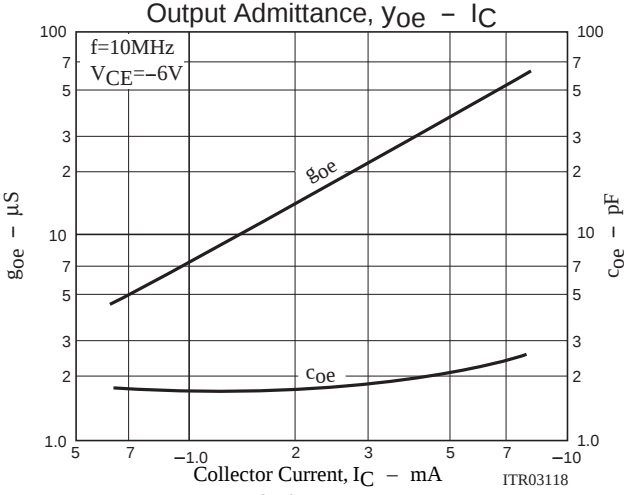
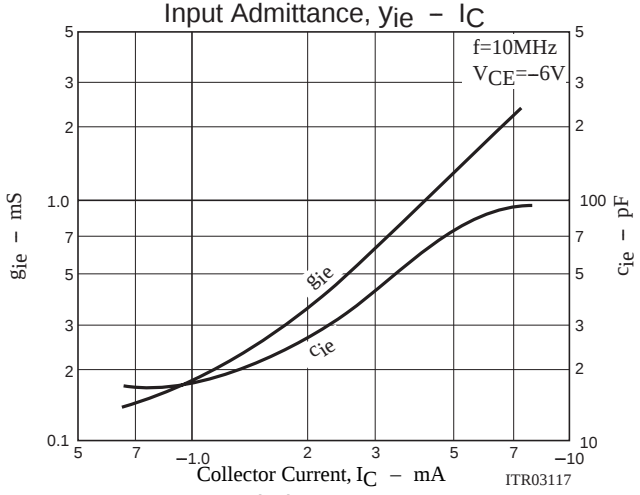
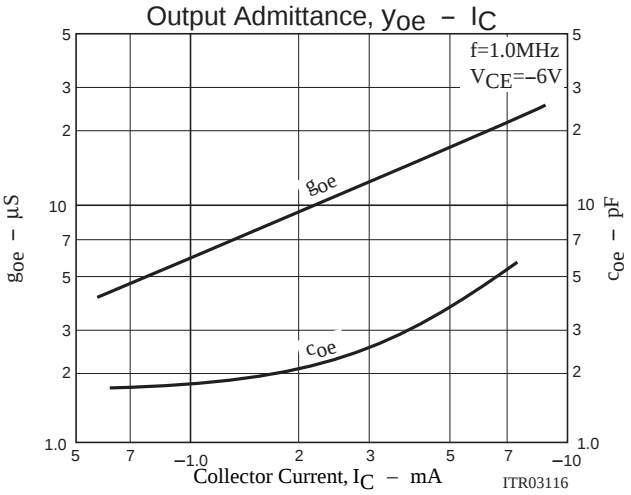
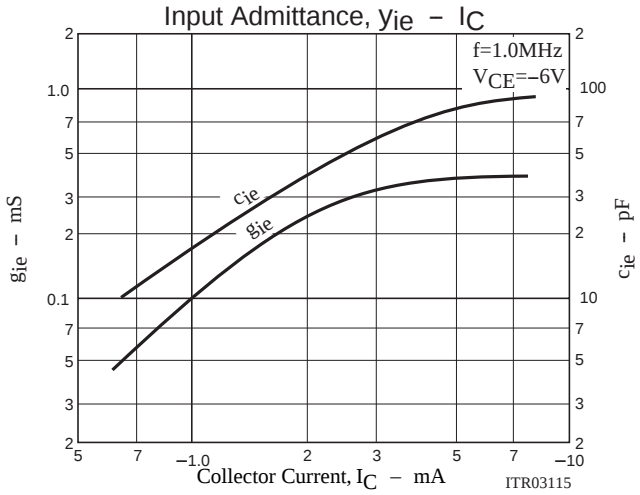
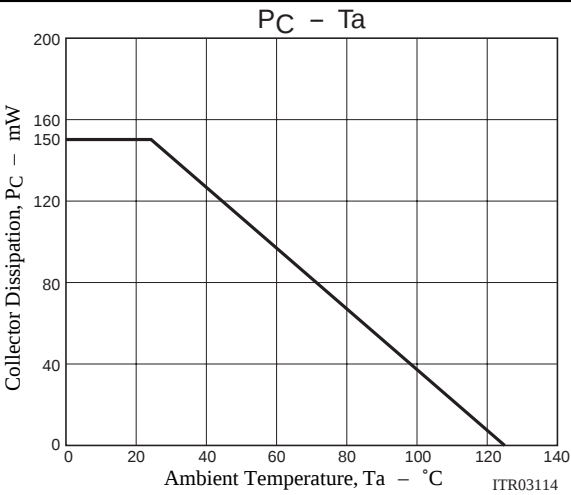
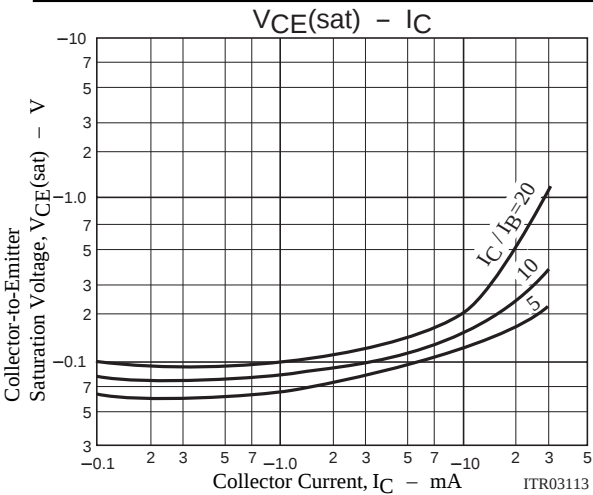
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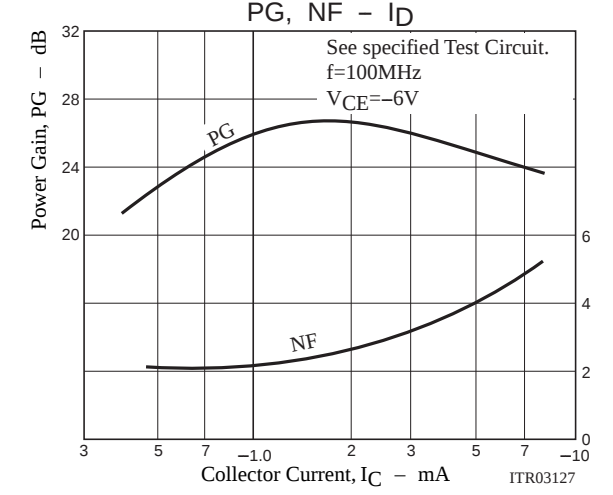
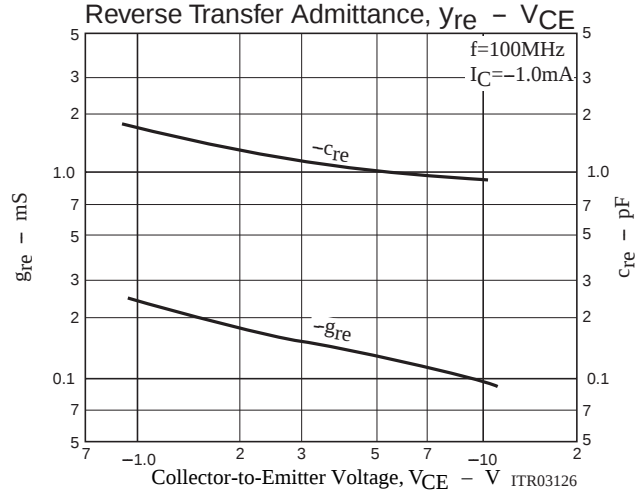
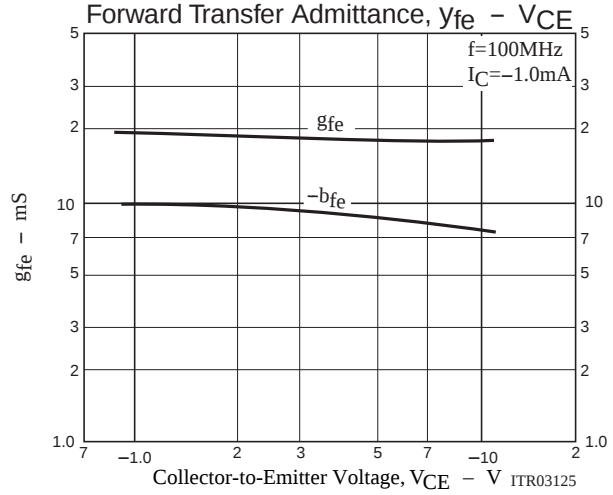
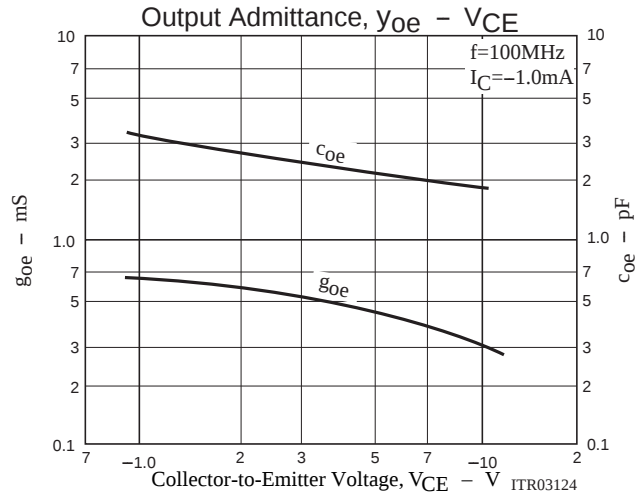
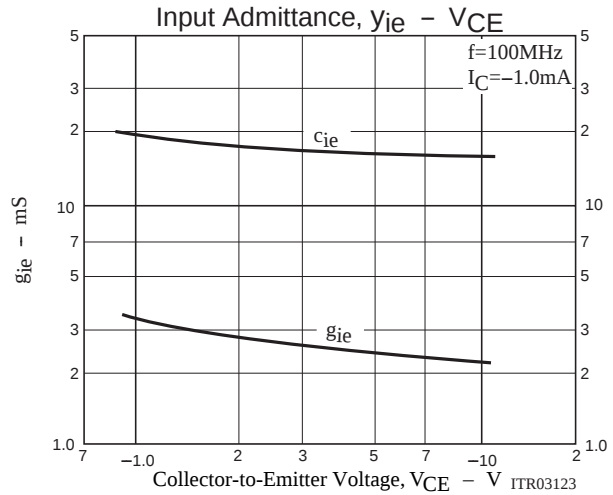
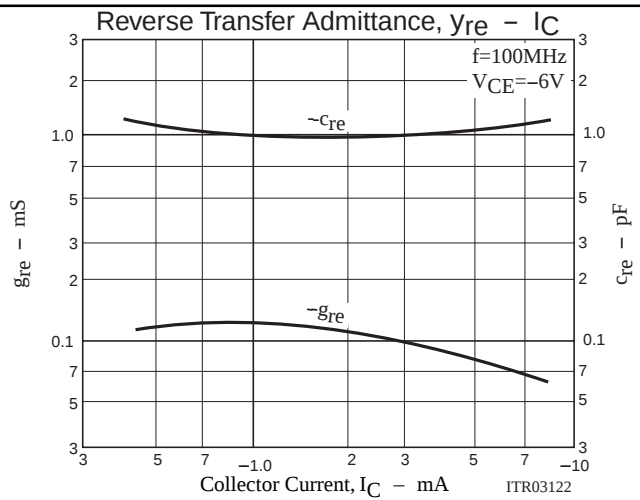
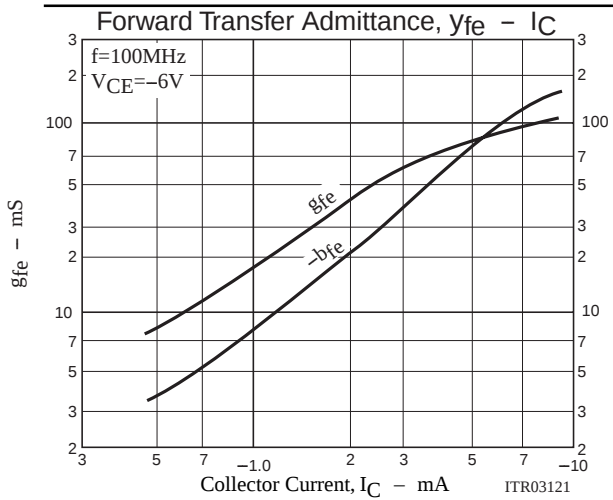
NF, PG Test Circuit



2SA1256



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