

SANYO**High Frequency Amp Applications****Applications**

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

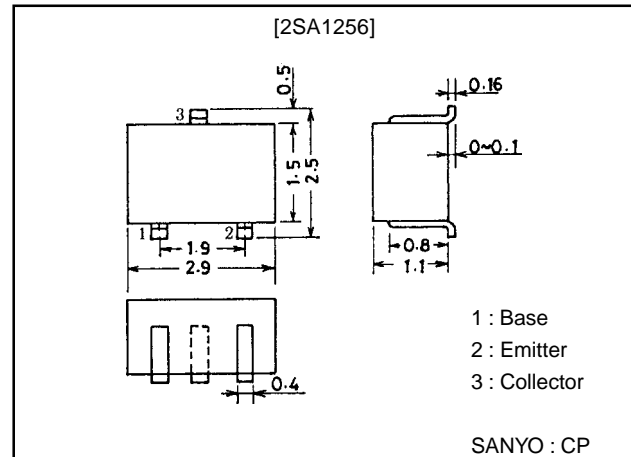
Features

- 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_{CB0}		-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	$^\circ\text{C}$

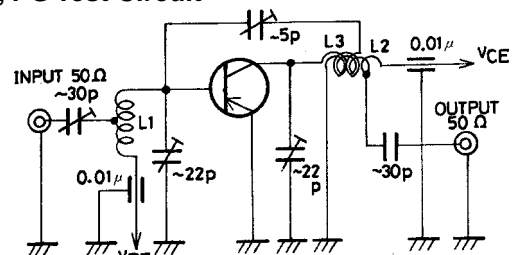
Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB} = (-)10\text{V}, I_E = 0$			-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 :

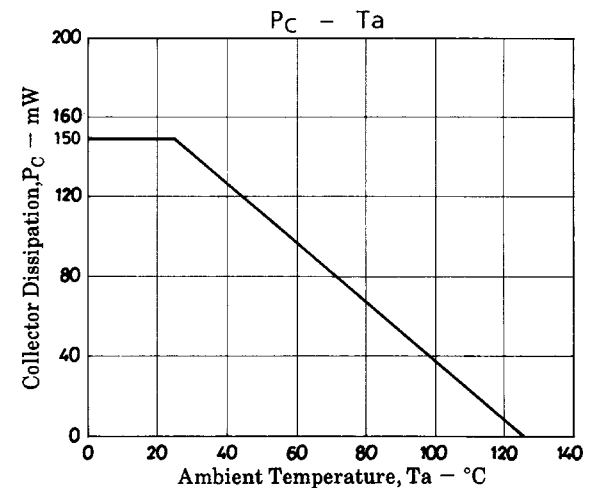
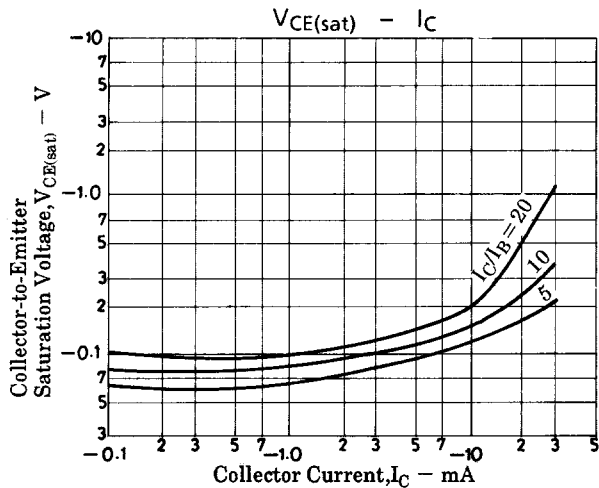
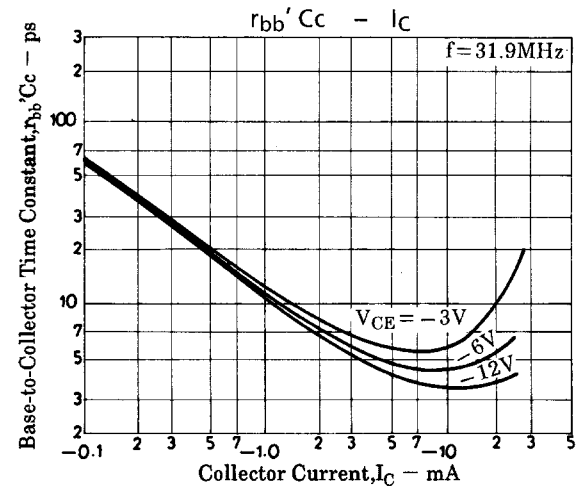
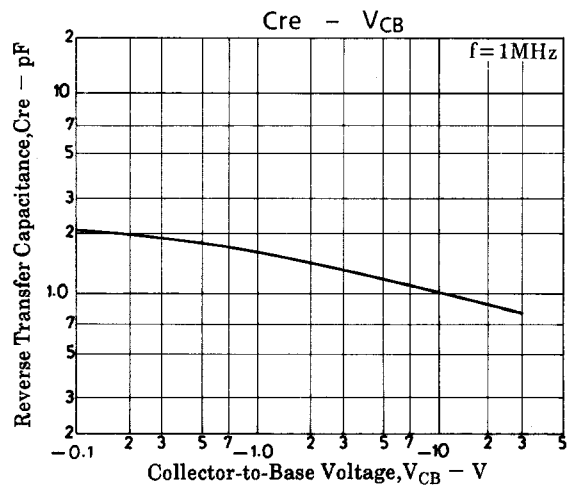
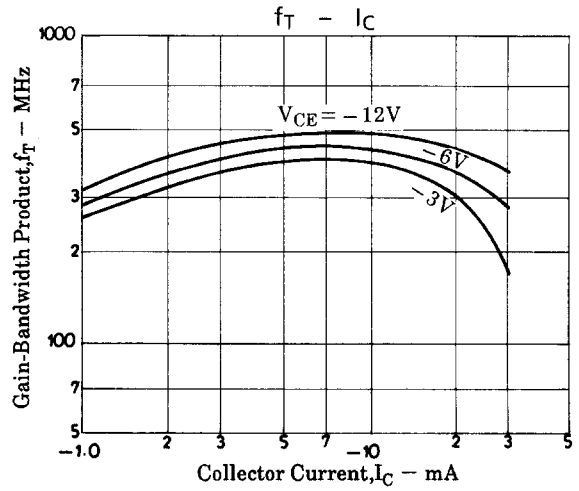
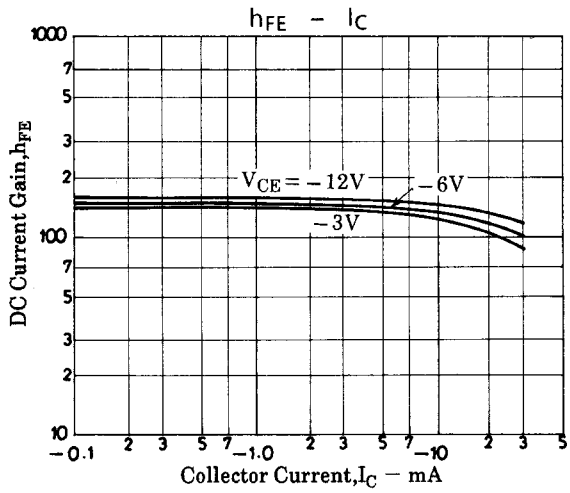
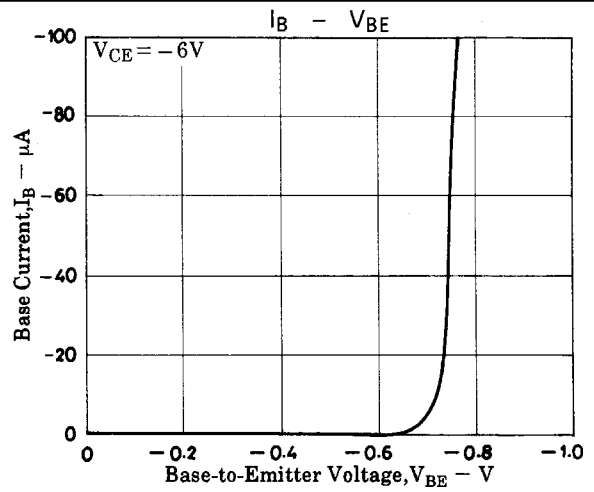
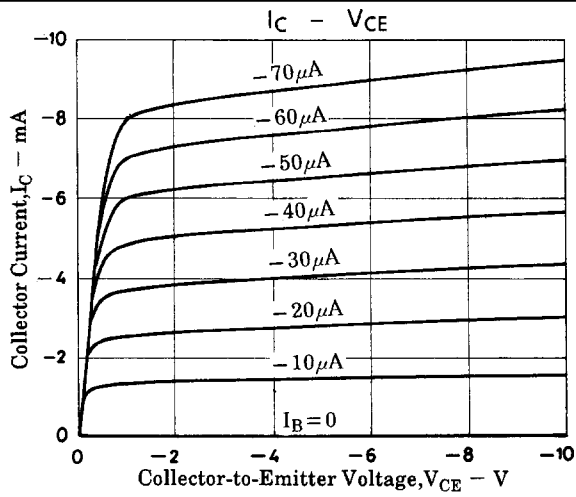
60	E3	120	90	E4	180	135	E5	180
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Note : Marking : E

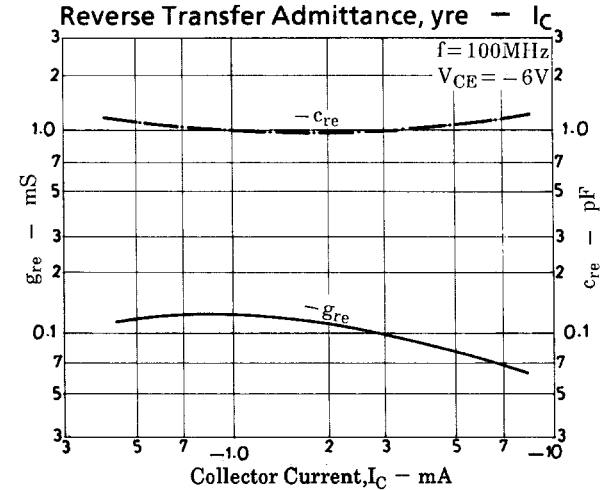
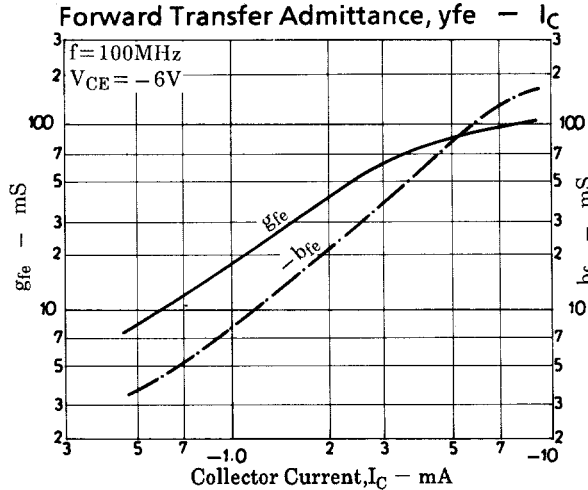
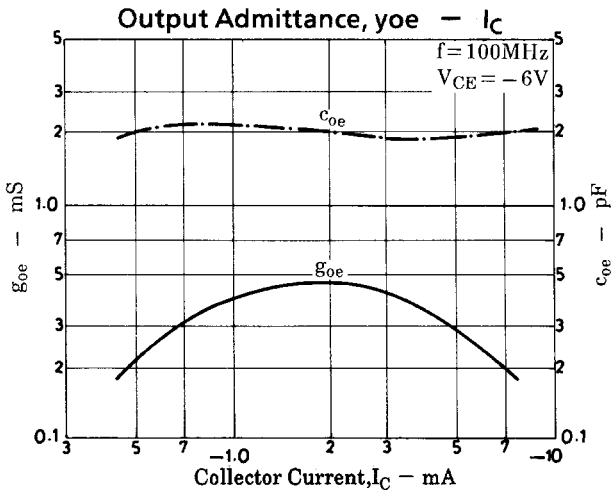
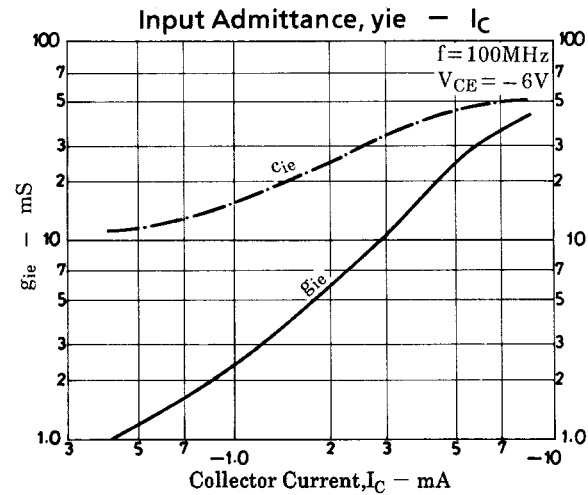
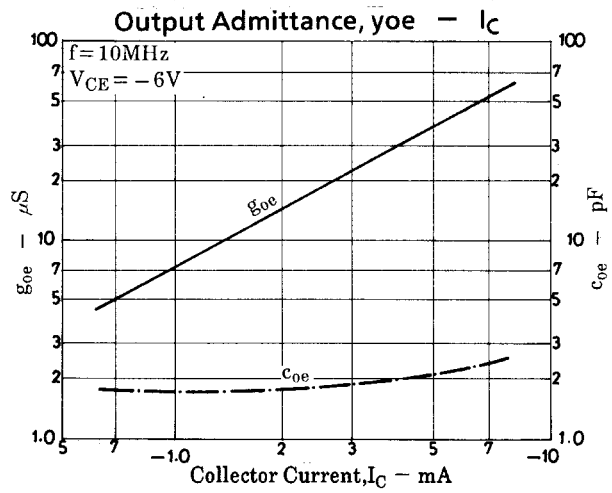
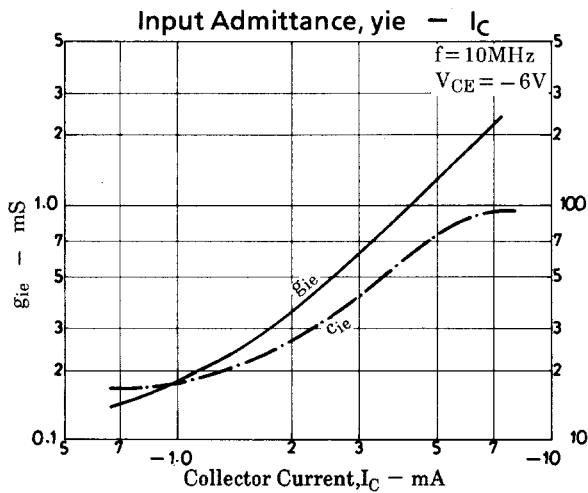
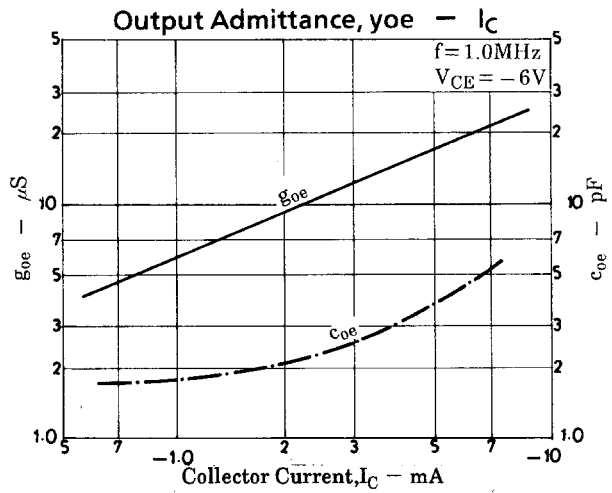
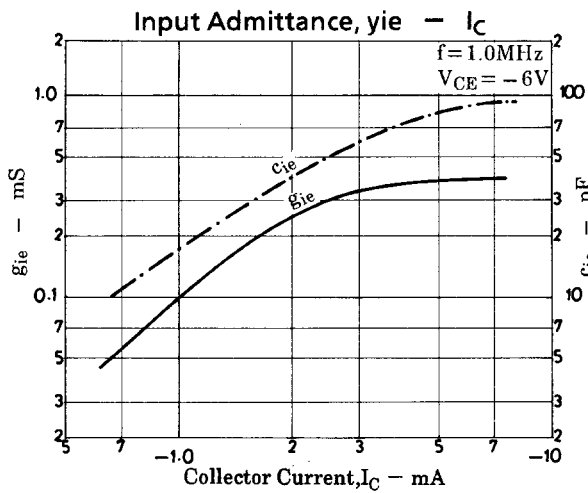
 h_{FE} rank : 3, 4, 5**NF, PG Test Circuit**L1 : 1mm ϕ plated wire 10mm ϕ 5T, tap : 2T from V_{BE} sideL2 : 1mm ϕ plated wire 10mm ϕ 7T, tap : 1T from V_{CE} sideL3 : 1mm ϕ enamel wire 10mm ϕ 3T**SANYO Electric Co.,Ltd. Semiconductor Business Headquarters**

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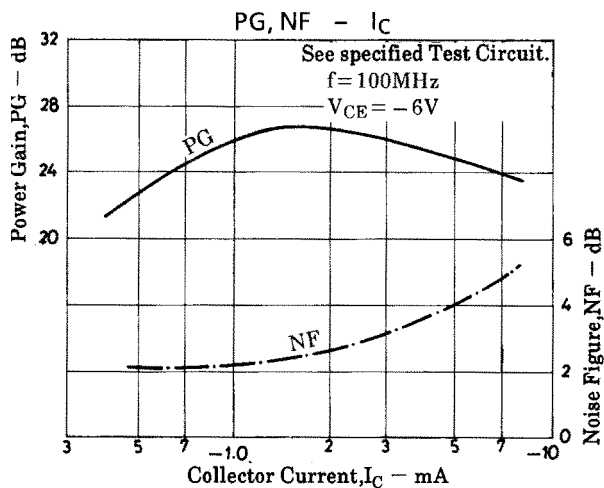
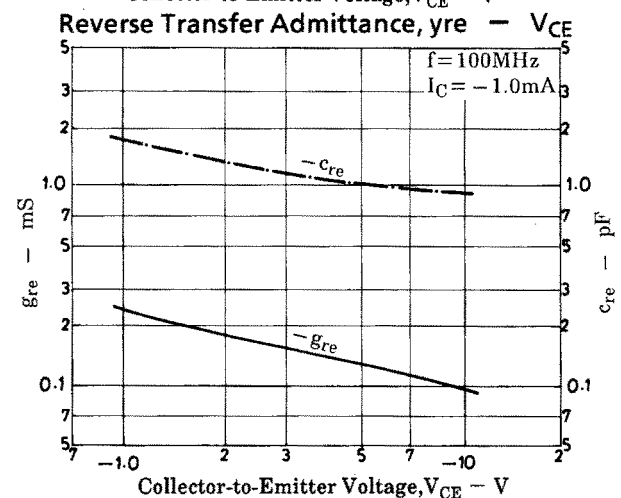
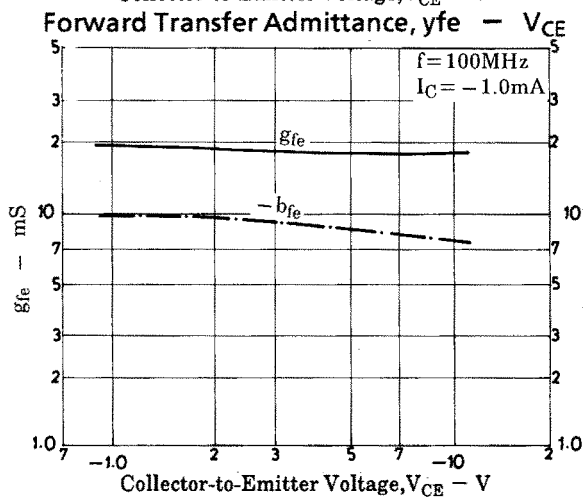
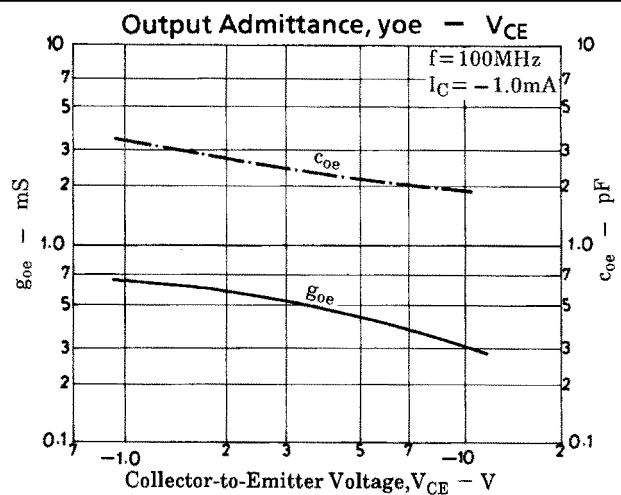
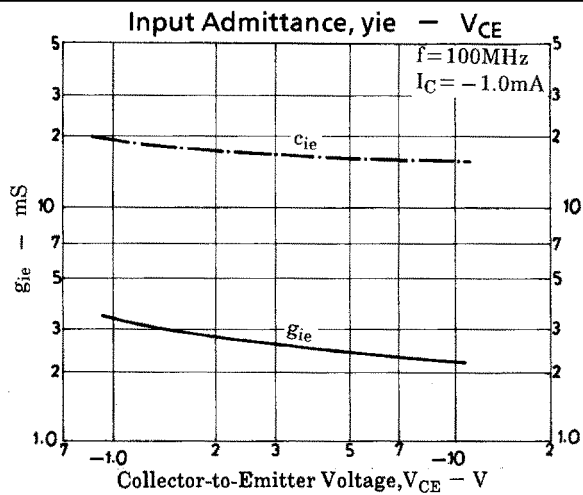
2SA1256



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