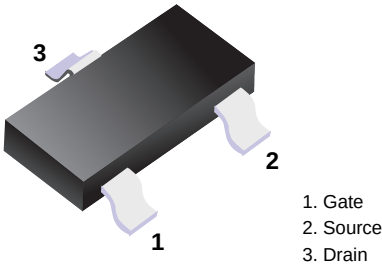


2SC3356

NPN Transistors

Features

- Low noise and high gain.
NF = 1.1 dB Typ., Ga = 11 dB Typ. @VCE = 10 V, Ic = 7 mA, f = 1.0 GHz
- High power gain.
MAG = 13 dB Typ. @VCE = 10 V, Ic = 20 mA, f = 1.0 GHz



Simplified outline(SOT23)

Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector to base voltage	VCBO	20	V
Collector to emitter voltage	VCEO	12	V
Emitter to base voltage	VEBO	3.0	V
Collector current (DC)	Ic	100	mA
Total power dissipation	Ptot	200	mW
Junction temperature	Tj	150	°C
Storage temperature range	Tstg	-65 to +150	°C

Electrical Characteristics Ta = 25°C

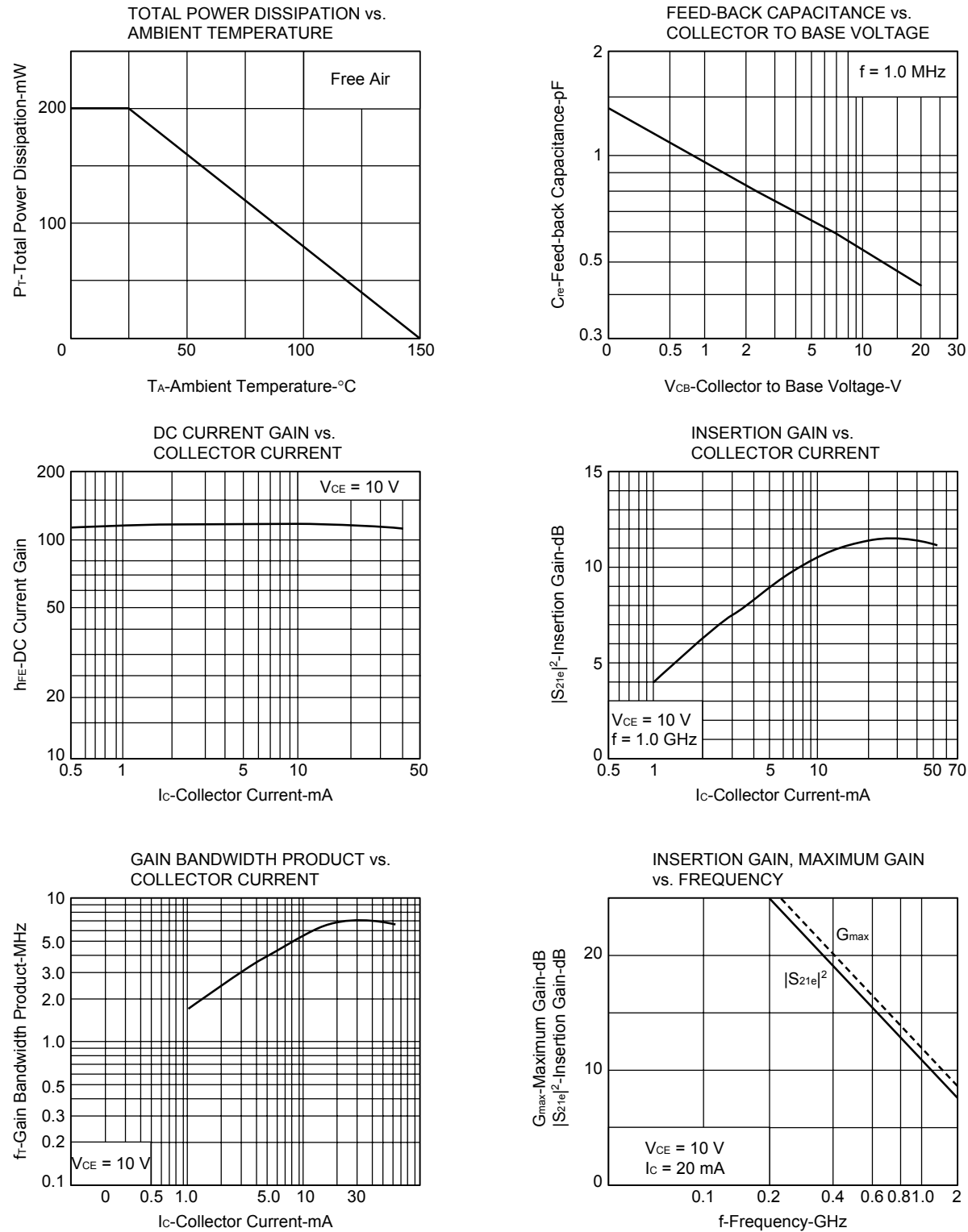
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	VCBO	Ic= 100 μA, IE= 0	20			V
Collector- emitter breakdown voltage	VCEO	Ic= 1 mA, IB= 0	12			
Emitter - base breakdown voltage	VEBO	IE= 100 uA, Ic= 0	3			
Collector-base cut-off current	ICBO	VCB= 10 V , IE= 0			1	uA
Emitter cut-off current	IEBO	VEB= 3V , Ic=0			1	
Collector-emitter saturation voltage *	VCE(sat)	Ic=50 mA, IB=5mA			0.4	V
Base - emitter saturation voltage *	VBE(sat)	Ic=50 mA, IB=5mA			1.2	
DC current gain *	hFE	VCE= 10V, Ic= 20mA	50		400	
Insertion power gain	S21e ²	VCE = 10 V, Ic = 20 mA, f= 1GHz		11.5		dB
Noise figure	NF	VCE = 10 V, Ic = 7 mA, f= 1GHz		1.1	2	
Reverse transfer capacitance	Cre	VCB= 10V, IE= 0,f=1MHz		0.55	1	
Transition frequency	fr	VCE= 10V, Ic= 20mA		7		GHz

*. Pulse measurement: PW ≤ 350 μ s, Duty Cycle ≤ 2%.

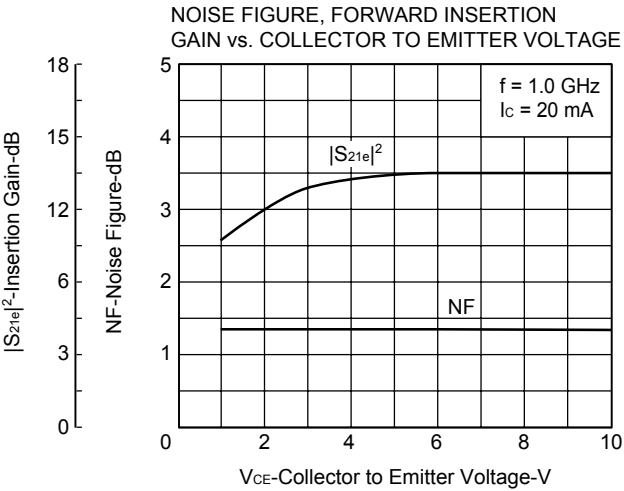
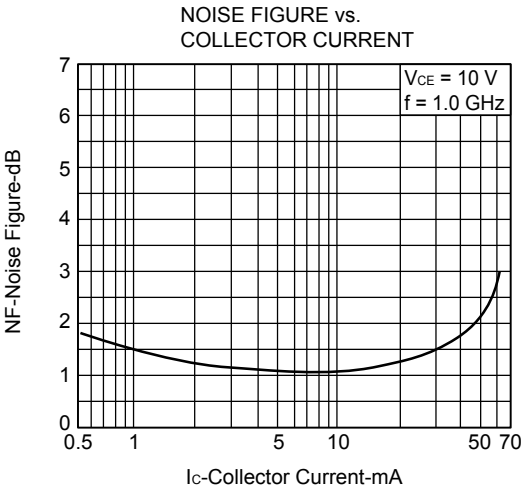
hFE Classification

Type	2SC3356-R23	2SC3356-R24	2SC3356-R25	2SC3356-R26
Range	50-100	80-160	125-250	250-400
Marking	R23	R24	R25	R26

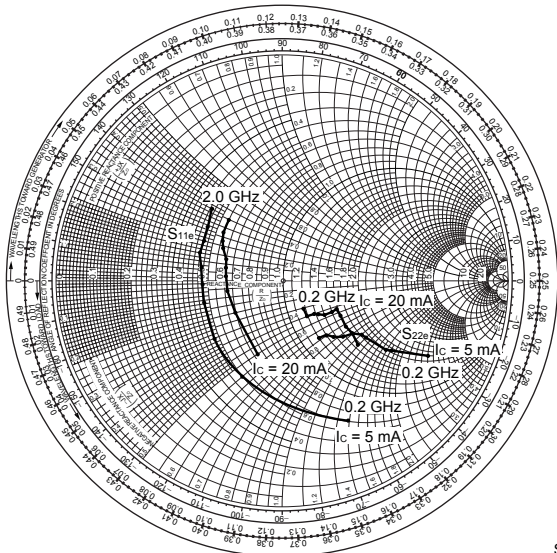
Typical Characteristics



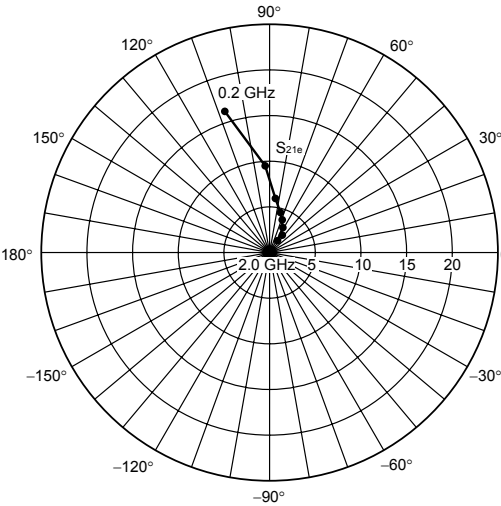
■ Typical Characteristics



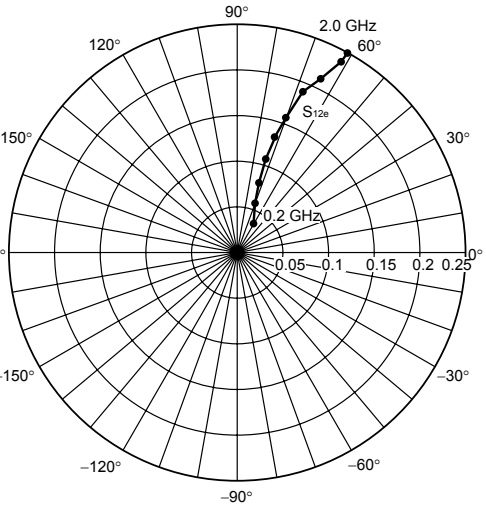
S_{11e} , S_{22e} -FREQUENCY
CONDITION $V_{CE} = 10\text{ V}$
200 MHz Step



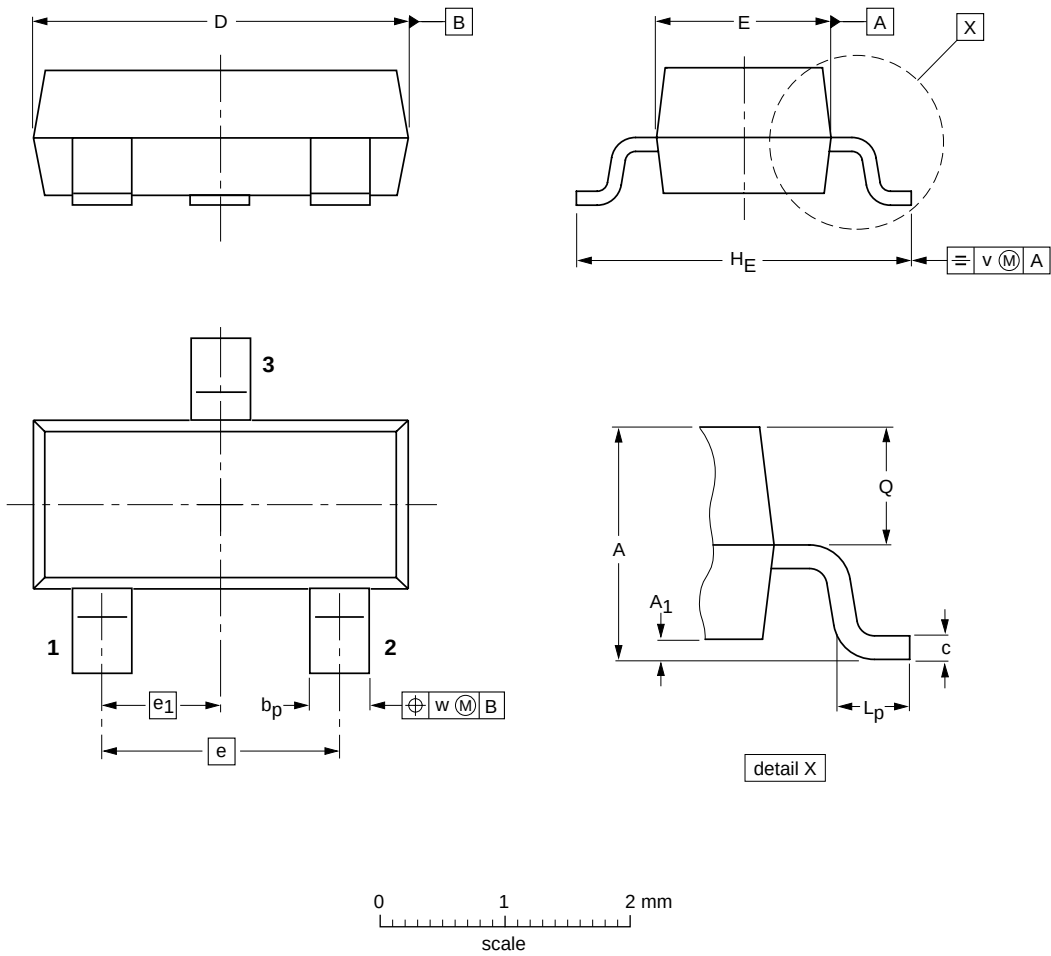
S_{21e} -FREQUENCY
CONDITION $V_{CE} = 10\text{ V}$
 $I_c = 20\text{ mA}$



S_{12e} -FREQUENCY
CONDITION $V_{CE} = 10\text{ V}$
 $I_c = 20\text{ mA}$



■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1