

# EVVOSEMI<sup>®</sup>

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

## Product Specification

▶ Domestic	Part Number	EV2SC3356-XXX-S1
▶ Overseas	Part Number	2SC3356-XXX
▶ Equivalent	Part Number	2SC3356-XXX

"S1" means SOT-23

EV is the abbreviation of name EVVO

## ■ NPN Transistors

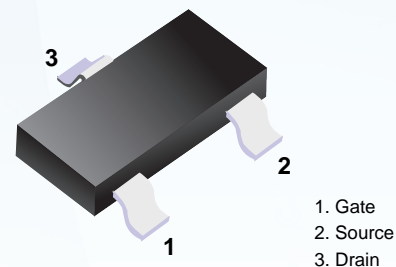
### ■ Features

- Low noise and high gain.

NF = 1.1 dB Typ., Ga = 11 dB Typ. @V<sub>CE</sub> = 10 V, I<sub>C</sub> = 7 mA, f = 1.0 GHz

- High power gain.

MAG = 13 dB Typ. @V<sub>CE</sub> = 10 V, I<sub>C</sub> = 20 mA, f = 1.0 GHz



■ Simplified outline(SOT23)

### ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector to base voltage	V <sub>CBO</sub>	20	V
Collector to emitter voltage	V <sub>CEO</sub>	12	V
Emitter to base voltage	V <sub>EB0</sub>	3.0	V
Collector current (DC)	I <sub>C</sub>	100	mA
Total power dissipation	P <sub>tot</sub>	200	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-65 to +150	°C

### ■ Electrical Characteristics Ta = 25°C

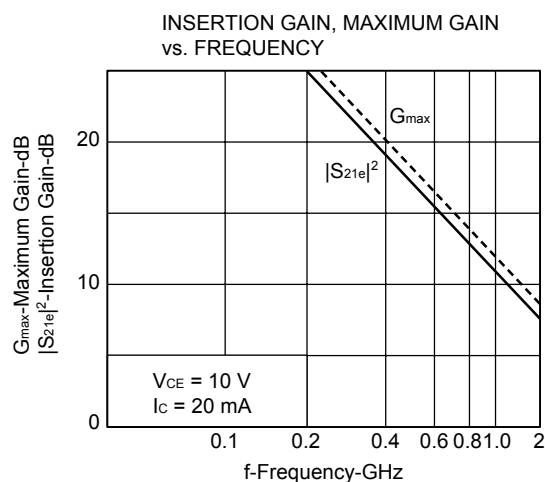
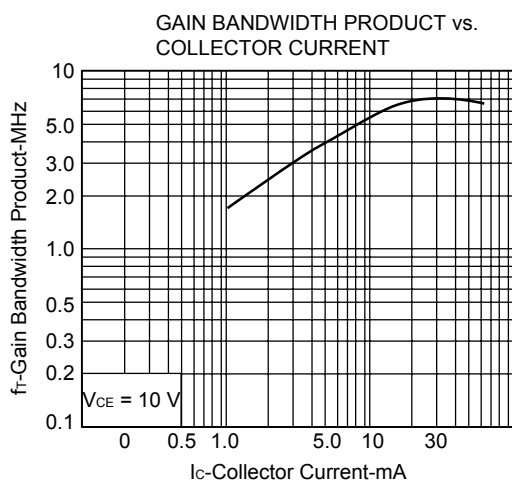
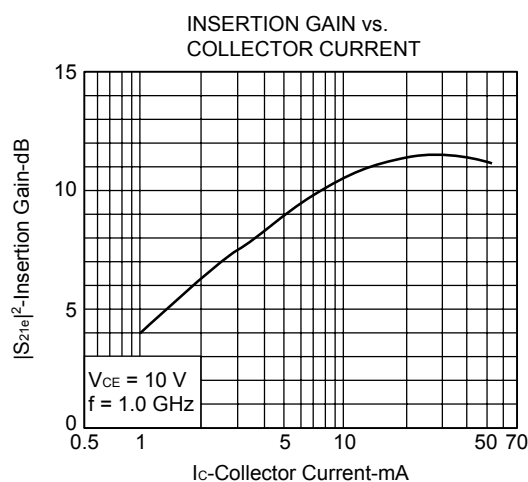
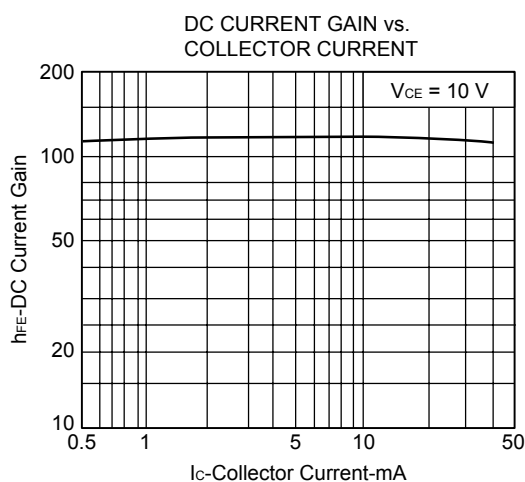
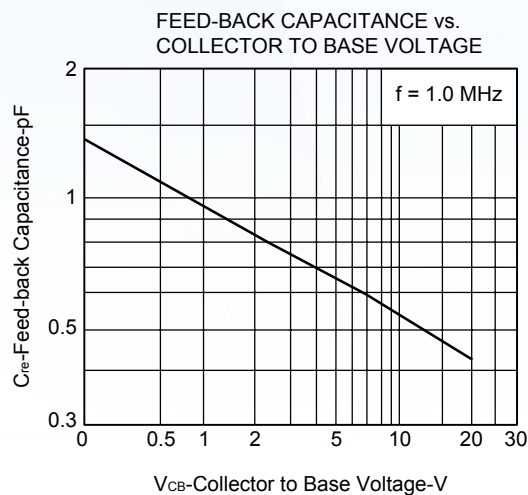
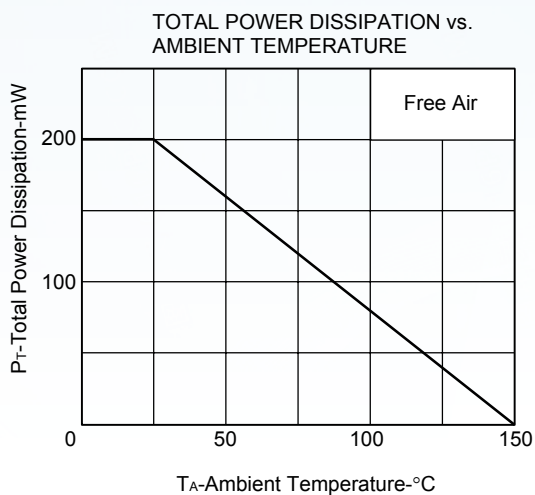
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CBO</sub>	I <sub>C</sub> = 100 μA, I <sub>E</sub> = 0	20			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = 1 mA, I <sub>B</sub> = 0	12			
Emitter - base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> = 100 μA, I <sub>C</sub> = 0	3			
Collector-base cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0			1	μA
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> = 3V, I <sub>C</sub> =0			1	
Collector-emitter saturation voltage *	V <sub>CE(sat)</sub>	I <sub>C</sub> =50 mA, I <sub>B</sub> =5mA			0.4	V
Base - emitter saturation voltage *	V <sub>BE(sat)</sub>	I <sub>C</sub> =50 mA, I <sub>B</sub> =5mA			1.2	
DC current gain *	h <sub>FE</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 20mA	50		400	
Insertion power gain	S <sub>21e</sub>   <sup>2</sup>	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 20 mA, f= 1GHz		11.5		dB
Noise figure	NF	V <sub>CE</sub> = 10 V, I <sub>C</sub> = 7 mA, f= 1GHz		1.1	2	
Reverse transfer capacitance	C <sub>re</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f=1MHz		0.55	1	
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 20mA		7		GHz

\*. Pulse measurement: PW ≤ 350 μs, Duty Cycle ≤ 2%.

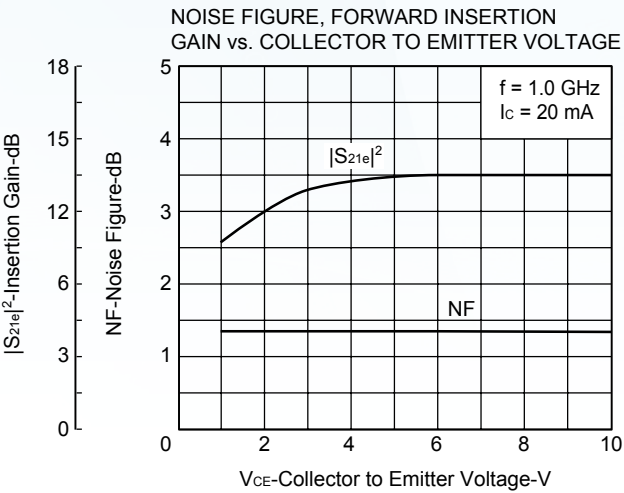
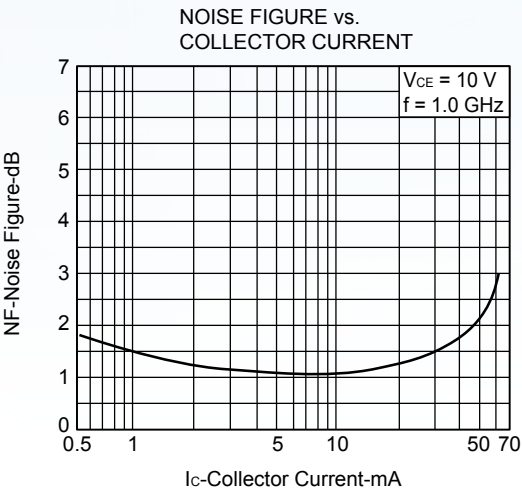
### ■ hFE Classification

Type	EV2SC3356-R23-S1	EV2SC3356-R24-S1	EV2SC3356-R25-S1	EV2SC3356-R26-S1
Range	50-100	80-160	125-250	250-400
Marking	R23	R24	R25	R26

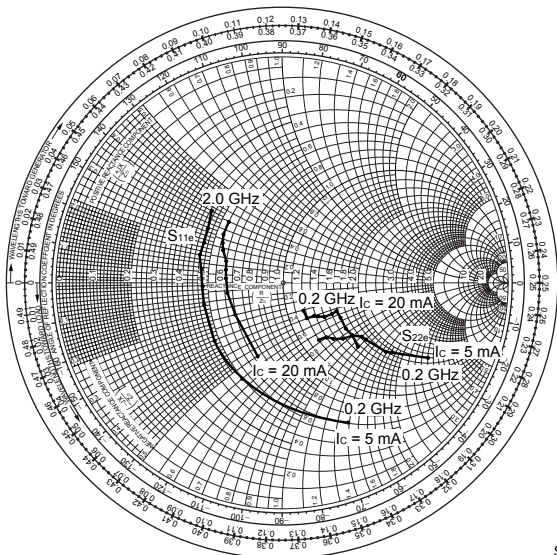
### ■ Typical Characteristics



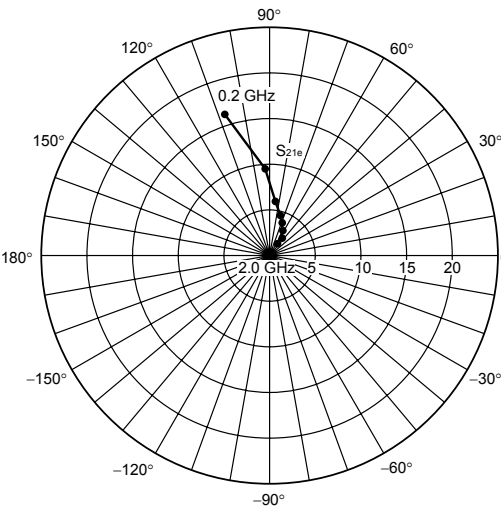
■ Typical Characteristics



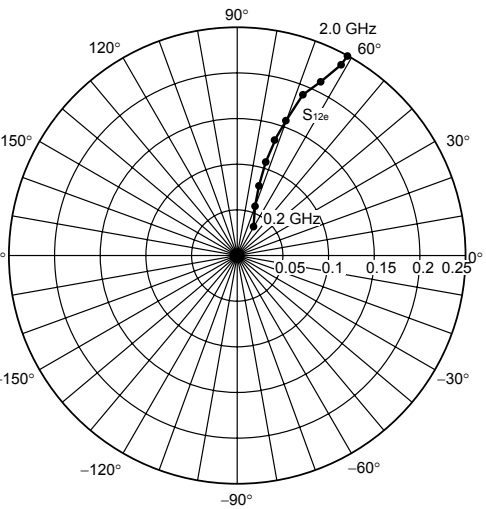
$S_{11e}$ ,  $S_{22e}$ -FREQUENCY  
CONDITION  $V_{CE} = 10\text{ V}$   
200 MHz Step



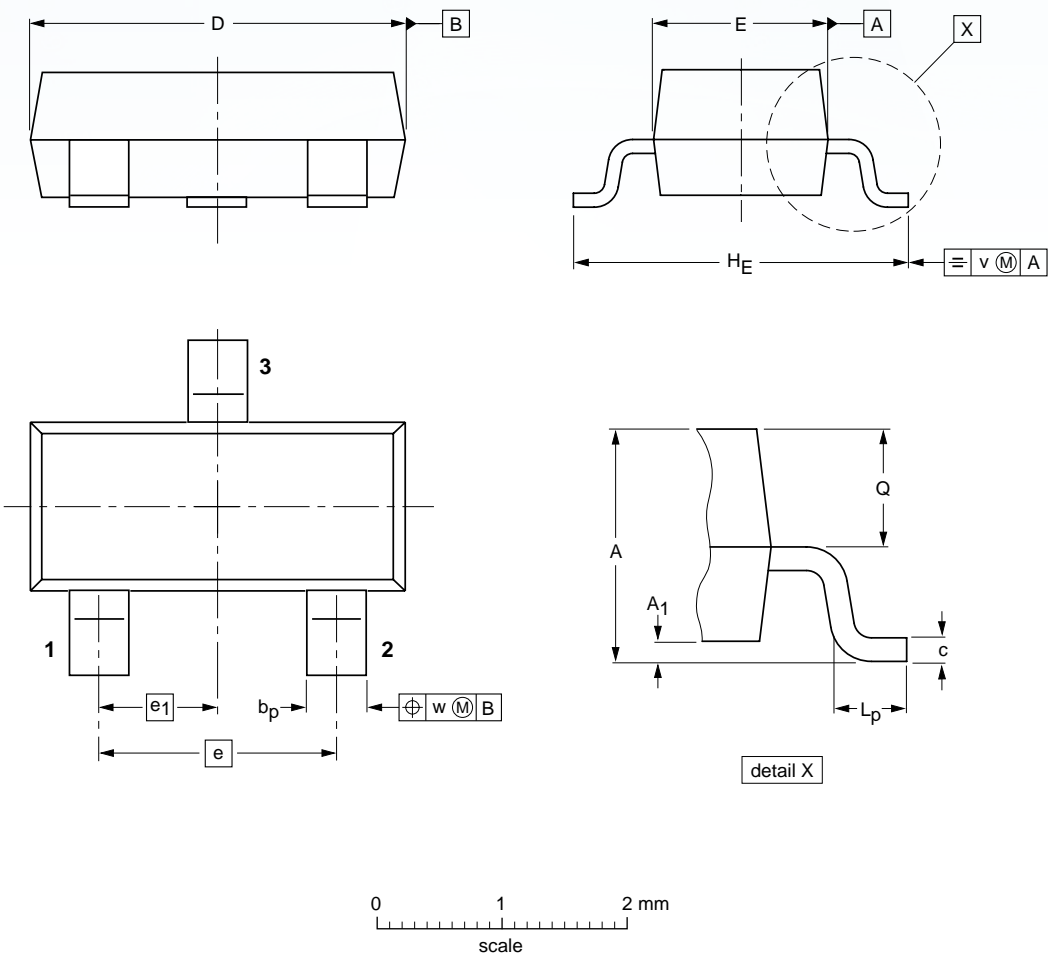
$S_{21e}$ -FREQUENCY  
CONDITION  $V_{CE} = 10\text{ V}$   
 $I_C = 20\text{ mA}$



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



■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	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



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