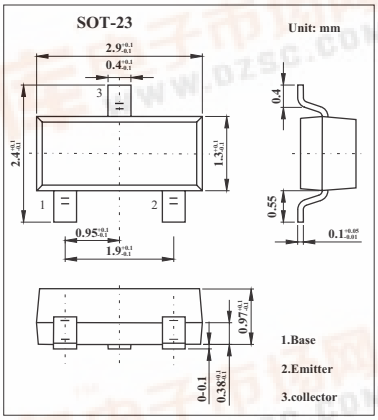
NPN Silicon Epitaxial Transistor

2SC3356



■ Features

- Low noise and high gain.

  NF = 1.1 dB Typ., G_a = 11 dB Typ. @V_{CE} = 10 V, I_C = 7 mA, f = 1.0 GHz

- High power gain.

  MAG = 13 dB Typ. @V_{CE} = 10 V, I_C = 20 mA, f = 1.0 GHz

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	12	V
Emitter to base voltage	V_{EBO}	3.0	V
Collector current (DC)	I_C	100	mA
Total power dissipation	P_{tot}	200	mW
Junction temperature	T_j	150	℃
Storage temperature range	T_{stg}	-65 to +150	℃

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 10 V, I_E = 0 mA			1.0	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 1.0 V, I_C = 0 mA			1.0	μA
DC current gain *	h_{FE}	V_{CE} = 10 V, I_C = 20 mA	50	120	250	
Insertion power gain	$\lvert S_{21e} \rvert^2$	V_{CE} = 10 V, I_C = 20 mA, f = 1 GHz		11.5		dB
Noise figure	NF	V_{CE} = 10 V, I_C = 7 mA, f = 1 GHz		1.1	2.0	dB
Reverse transfer capacitance	C_{re}	V_{CB} = 10 V, I_E = 0 mA, f = 1 MHz		0.55	1.0	pF
Transition frequency	f_T	V_{CE} = 10 V, I_C = 20 mA		7		GHz

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

■ h_{FE} Classification

Marking	R23	R24	R25
Rank	Q	R	S
h_{FE}	50～100	80～160	125～250