

SILICON TRANSISTOR
NPN SILICON EPITAXIAL TRANSISTOR
POWER MINI MOLD

DESCRIPTION

The 2SC3357 is an NPN silicon epitaxial transistor designed for low noise amplifier at VHF, UHF and CATV band. It has large dynamic range and good current characteristic.

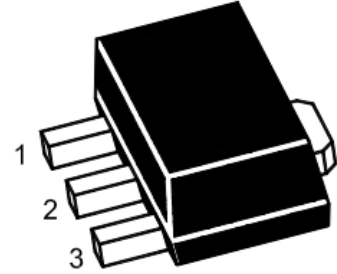
FEATURES

- Low Noise and High Gain
 NF = 1.1 dB TYP., Ga = 8.0 dB TYP. @VCE = 10 V,
 IC = 7 mA, f = 1.0 GHz
 NF = 1.8 dB TYP., Ga = 9.0 dB TYP. @VCE = 10 V,
 IC = 40 mA, f = 1.0 GHz
- Large PT in Small Package
 PT : 2 W with 16 cm² × 0.7 mm Ceramic Substrate.

ABSOLUTE MAXIMUM RATINGS (TA = 25 ° C)

Collector to Base Voltage	VCBO	20	V
Collector to Emitter Voltage	VCEO	12	V
Emitter to Base Voltage	VEBO	3.0	V
Collector Current	IC	100	mA
Total Power Dissipation	PT*	1.2	W
Thermal Resistance	Rth(j-a)*	62.5	° C/W
Junction Temperature	Tj	150	° C
Storage Temperature	Tstg	-65 to +150	° C

* mounted on 16 cm² × 0.7 mm Ceramic Substrate



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

ELECTRICAL CHARACTERISTICS (TA = 25 ° C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	ICBO			1.0	μA	V _{CB} = 10 V, I _E = 0
Emitter Cutoff Current	IEBO			1.0	μA	V _{EB} = 1.0 V, I _C = 0
DC Current Gain	h _{FE} *	50	120	300		V _{CE} = 10 V, I _C = 20 mA
Gain Bandwidth Product	f _r		6.5		GHz	V _{CE} = 10 V, I _C = 20 mA
Feed-Back Capacitance	C _{re} **		0.65	1.0	pF	V _{CB} = 10 V, I _E = 0, f = 1.0 MHz
Insertion Power Gain	S _{21e} ²		9		dB	V _{CE} = 10 V, I _C = 20 mA, f = 1.0 GHz
Noise Figure	NF		1.1		dB	V _{CE} = 10 V, I _C = 7 mA, f = 1.0 GHz
Noise Figure	NF		1.8	3.0	dB	V _{CE} = 10 V, I _C = 40 mA, f = 1.0 GHz

* Pulse Measurement PW ≤ 350 μs, Duty Cycle ≤ 2 %

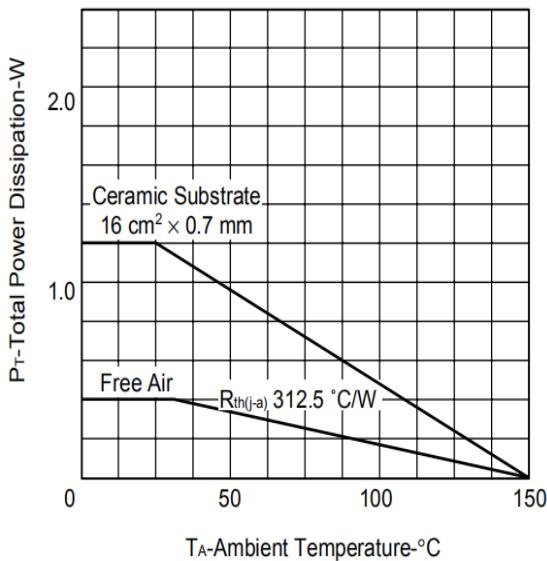
** The emitter terminal and the case shall be connected to the guard terminal of the three-terminal capacitance bridge.

h_{FE} Classification

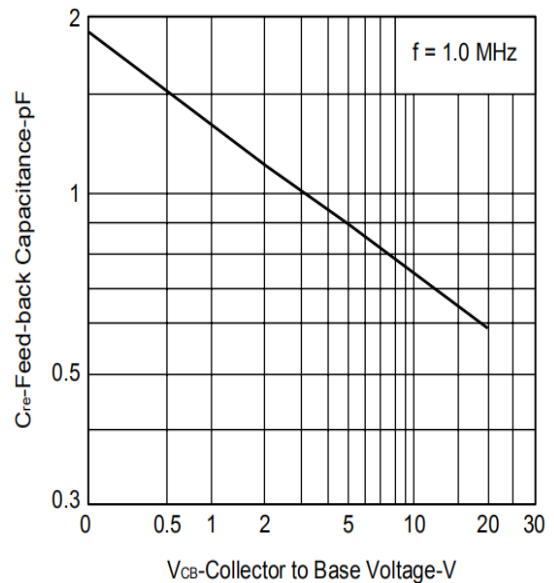
Class	RH	RF	RE
Marking	RH	RF	RE
h _{FE}	50 to 100	80 to 160	125 to 250

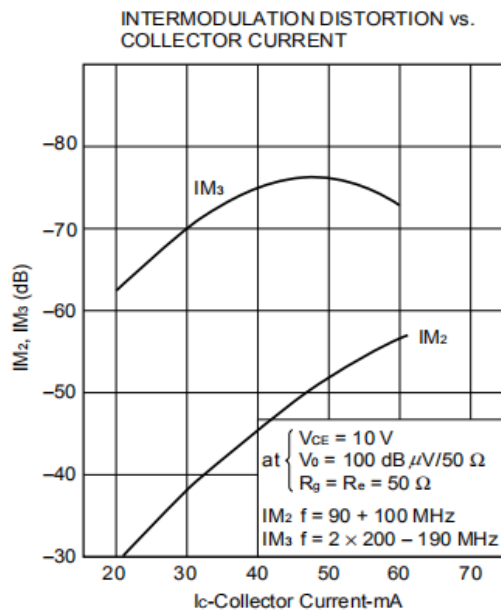
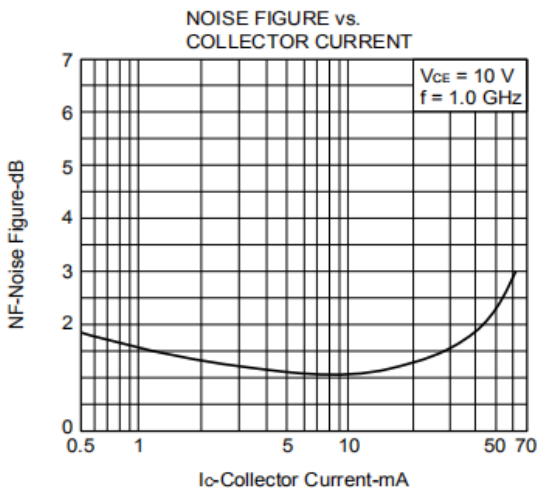
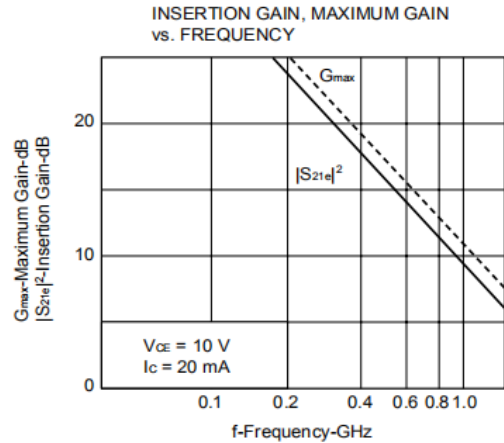
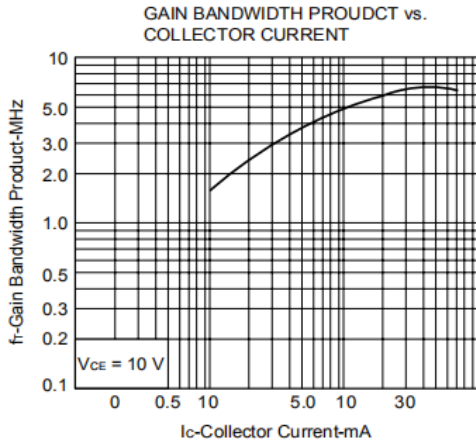
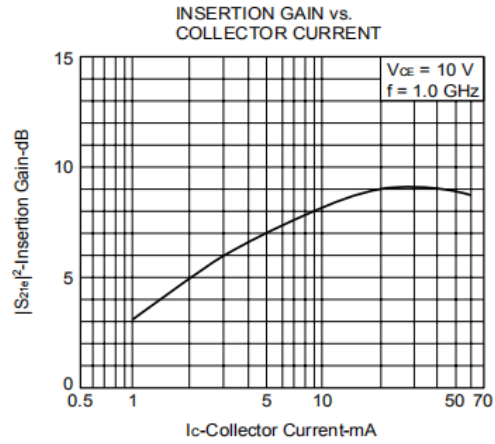
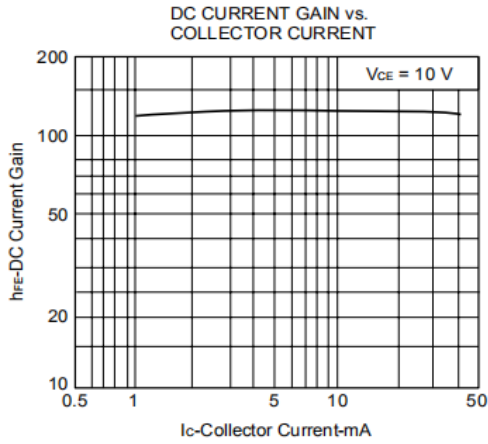
TYPICAL CHARACTERISTICS (TA = 25 °C)

TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



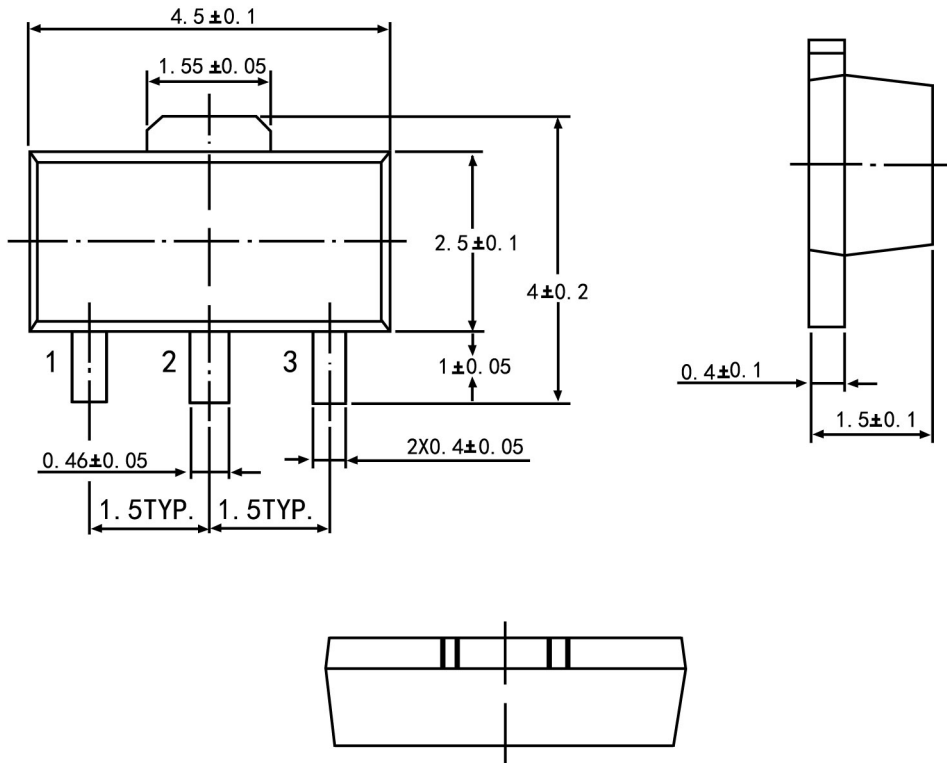
FEED-BACK CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE







SOT-89 PACKAGE OUTLINE



Symbol	Dimension in Millimeters	
	Min	Max
A	1.40	1.60
B	0.44	0.62
B1	0.35	0.54
C	0.35	0.44
D	4.40	4.60
D1	1.62	1.83
E	2.29	2.60
e	1.50 Typ	
H	3.94	4.25
H1	2.63	2.93
L	0.89	1.20
All Dimensions In mm		