

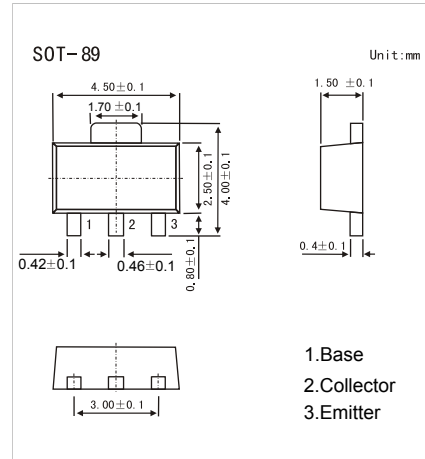


SOT-89 Plastic-Encapsulate Transistors

2SC3357 NPN Transistors

■ Features

- Low noise and high gain
- High power gain
- Large P_{tot}



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	20	V
Collector - Emitter Voltage	V _{CEO}	12	
Emitter - Base Voltage	V _{EBO}	3	
Collector Current - Continuous	I _c	100	mA
Collector Power Dissipation	P _c	1.2	W
Junction to Ambient Resistance	R _{th(j-a)}	62.5	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V _{CB0}	I _c = 100 μA, I _E = 0	20			V
Collector- emitter breakdown voltage	V _{CEO}	I _c = 1 mA, I _B = 0	12			
Emitter - base breakdown voltage	V _{EBO}	I _E = 100 μA, I _C = 0	3			
Collector-base cut-off current	I _{CB0}	V _{CB} = 20V, I _E = 0			1	uA
Emitter cut-off current	I _{EBO}	V _{EB} = 3V, I _C =0			1	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =50 mA, I _B =5mA			0.4	V
Base - emitter saturation voltage	V _{BE(sat)}	I _C =50 mA, I _B =5mA			1.2	
DC current gain (Note.1)	h _{FE}	V _{CE} = 10V, I _C = 20mA	50		250	
Insertion Power Gain	S _{21e} ²	V _{CE} = 10V, I _C = 20mA, f= 1GHz		9		dB
Noise Figure	NF	V _{CE} = 10V, I _C = 7mA, f= 1GHz		1.1		
		V _{CE} = 10V, I _C = 40mA, f= 1GHz		1.8	3	
Reverse Transfer Capacitance	C _{re}	V _{CB} = 10V, I _E = 0, f=1MHz			1	pF
Transition frequency	f _T	V _{CE} = 10V, I _C = 20mA		6.5		GHz

Note.1: Pulse measurement: PW ≤ 350 us, Duty Cycle ≤ 2%

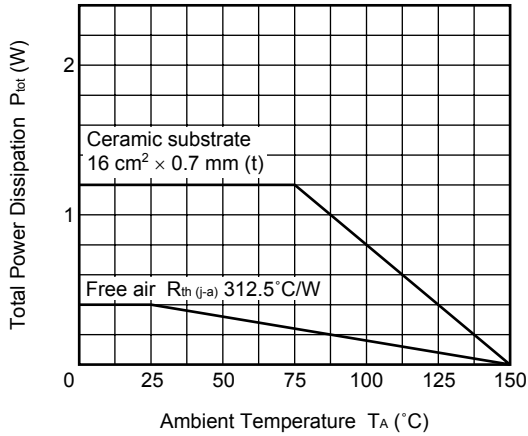
■ Classification of h_{FE}

Type	2SC3357-H	2SC3357-F	2SC3357-E
Range	50-100	80-160	125-250
Marking	RH	RF	RE

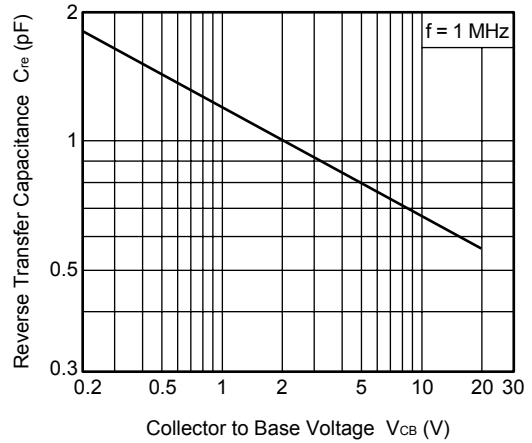
2SC3357 NPN Transistors

Typical Characteristics

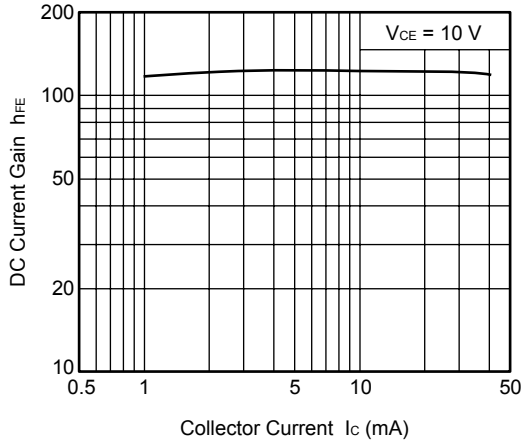
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



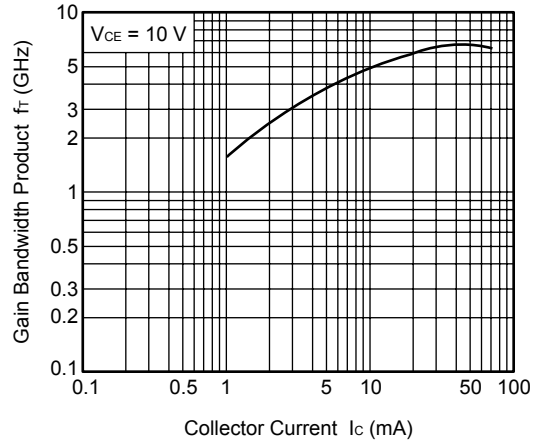
REVERSE TRANSFER CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE



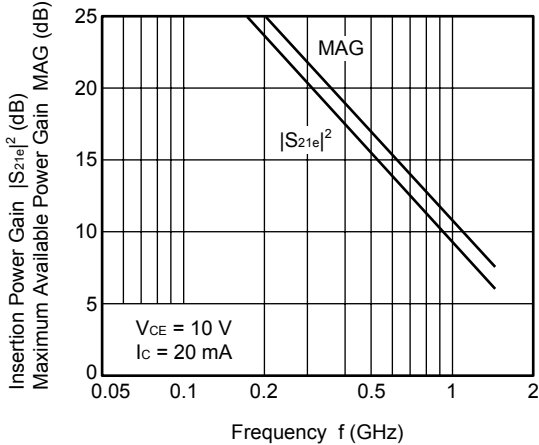
DC CURRENT GAIN vs. COLLECTOR CURRENT



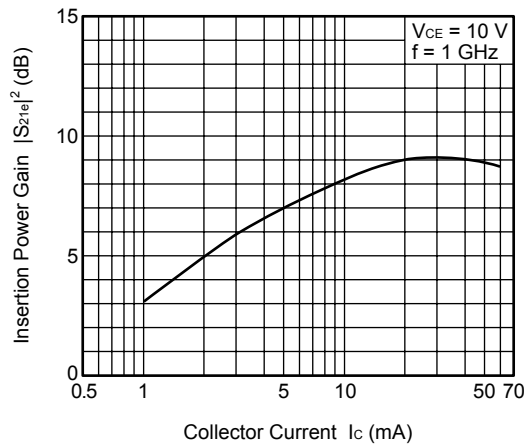
GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



INSERTION POWER GAIN, MAG vs. FREQUENCY



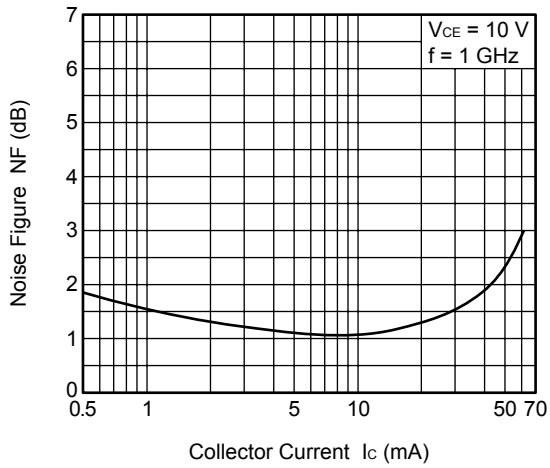
INSERTION POWER GAIN vs. COLLECTOR CURRENT



2SC3357 NPN Transistors

■ Typical Characteristics

NOISE FIGURE vs.
COLLECTOR CURRENT



IM₂, IM₃ vs. COLLECTOR CURRENT

