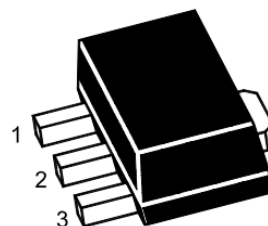


NPN Transistor

Features

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



1.Base 2.Collector 3.Emitter

SOT-89-3L

Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	20	V
Collector - Emitter Voltage	V _{CE0}	12	
Emitter - Base Voltage	V _{EB0}	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 _{CE0}	I _c = 1 mA, I _B = 0	12			
Emitter - base breakdown voltage	V _{EB0}	I _E = 100 μA, I _C = 0	3			
Collector-base cut-off current	I _{CB0}	V _{CB} = 20V, I _E = 0			1	μA
Emitter cut-off current	I _{EB0}	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

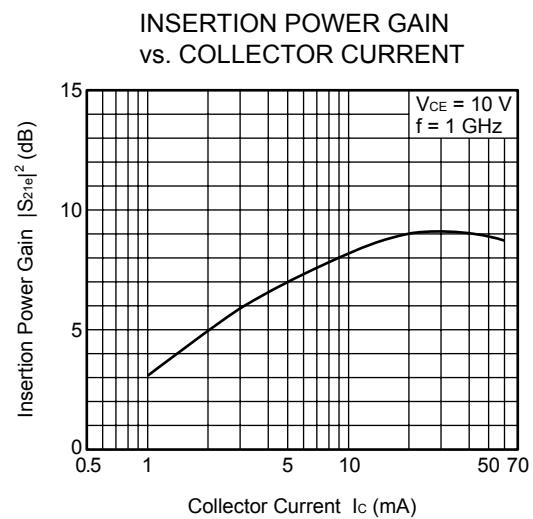
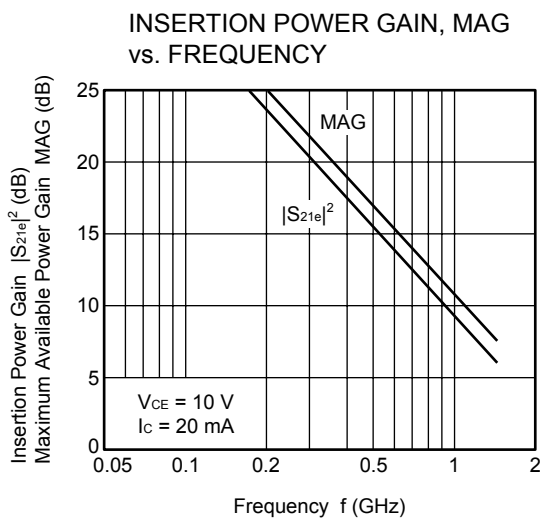
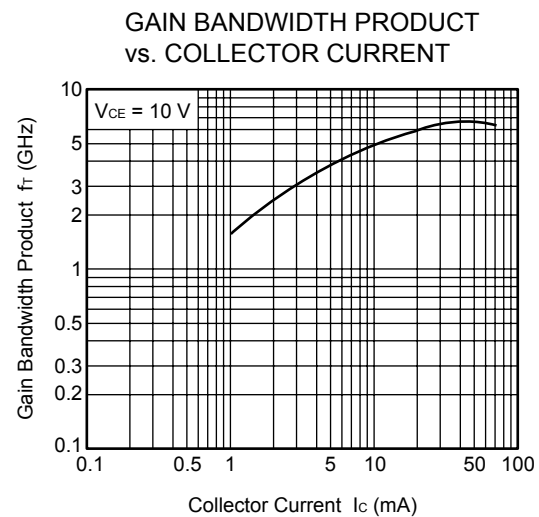
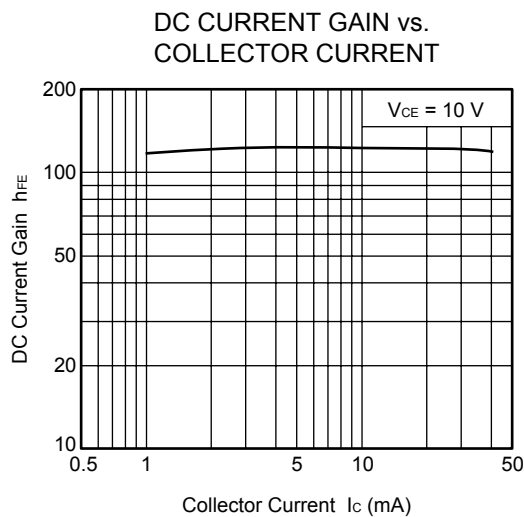
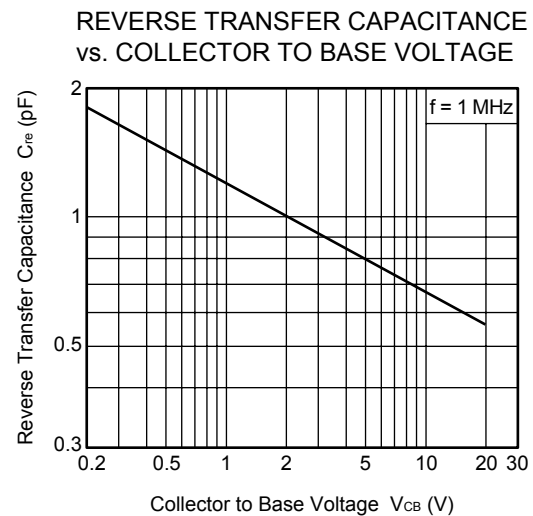
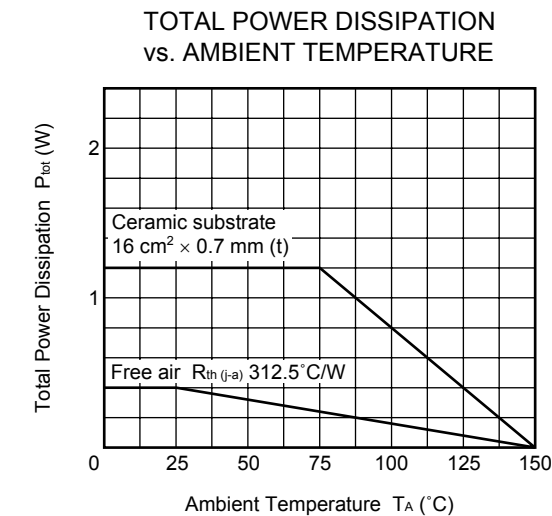
Note.1: Pulse measurement: PW ≤ 350 us, Duty Cycle ≤ 2%

Classification of h_{FE}

Type	2SC3357F	2SC3357E
Range	80-160	125-250
Marking	RF	RE

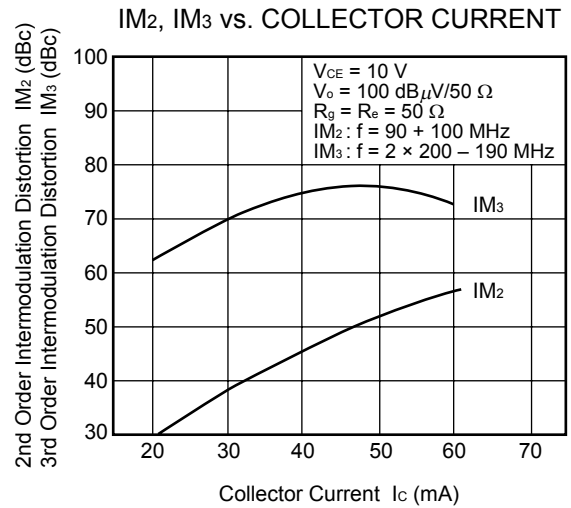
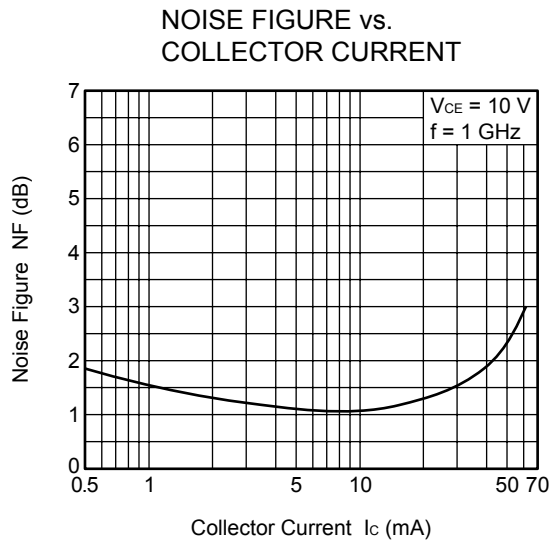
NPN Transistor

Typical Characteristics



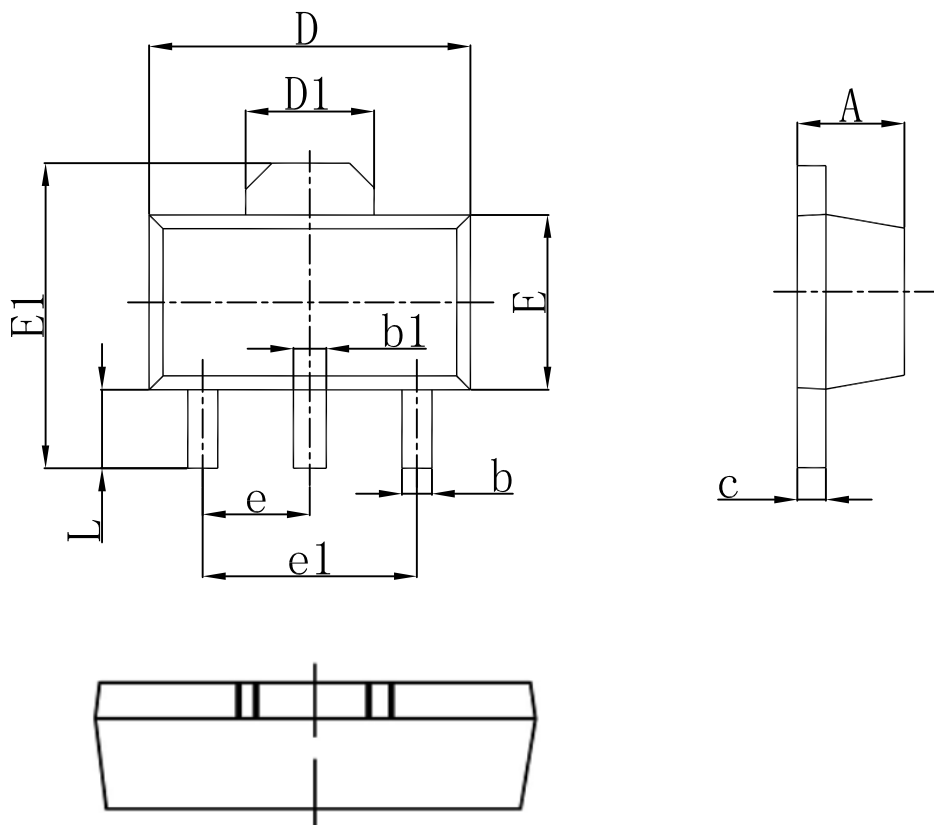
NPN Transistor

Typical Characteristics



NPN Transistor

SOT-89-3L Outlines Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047