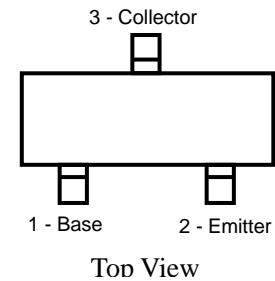


Description

The **2SC3356** is designed for such applications as: DC/DC converters, supply line switching, battery charger, LCD backlighting, peripheral drivers, Driver in low supply voltage applications (e.g. lamps and LEDs) and inductive load driver (e.g. relays, buzzers and motors).

Features

- Low Noise and High Gain
- High Power Gain



Mechanical Characteristics

- Lead finish: 100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature: 260°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 μm
- Pin flatness: ≤ 3mil

Structure

NPN epitaxial planar silicon transistor

Electrical characteristics per line @ 25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1.0mA, I_B=0$	12			V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	20			V
Emitter -Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	2			V
Collector-Base Cutoff Current	I_{CBO}	$V_{CE}=15V$			1	μA
Emitter-Base Cutoff Current	I_{EBO}	$V_{CE}=1V$			1	μA
DC Current Gain	h_{FE}	$V_{CE}=10V, I_C=20mA$	130		180	
Gain Bandwidth Product	f_T	$V_{CE}=10V, I_C=20mA$		7		GHz
Feed-Back Capacitance	C_{re}	$V_{cb}=10V, I_e=0, f=1.0MHz$		0.55	1.0	pF
Noise Figure	NF	$V_{ce}=10V, I_c=7mA, f=1GHz$		1.1	2.0	dB

Absolute maximum rating@25°C

Parameter	Symbol	Value	Units
Collector to Base Voltage	BV_{CBO}	20	V
Collector to Emitter Voltage	BV_{CEO}	12	V
Emitter to Base Voltage	BV_{EBO}	2.5	V
Collector Current	I_C	100	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Typical Characteristics

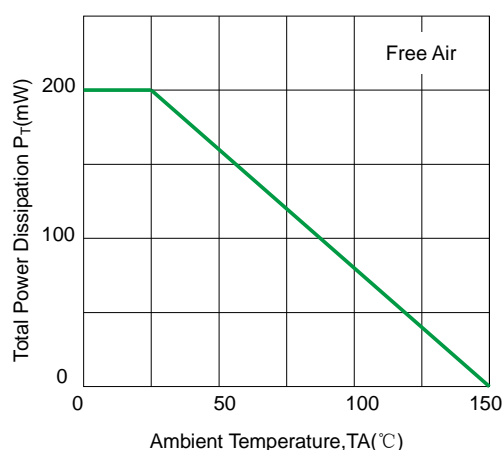


Fig 1.Total Power Dissipation VS Ambient Temperature

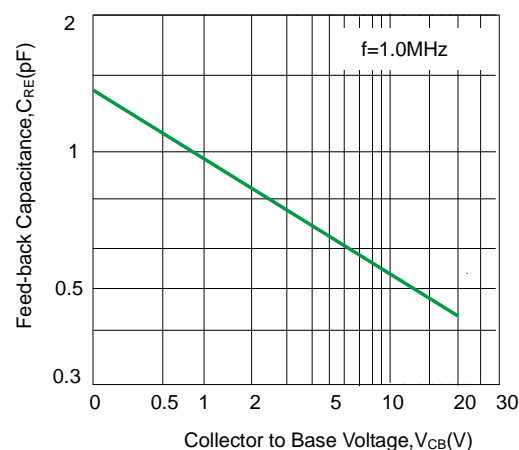


Fig 2. Feed-back Capacitance VS Collector to Base Voltage

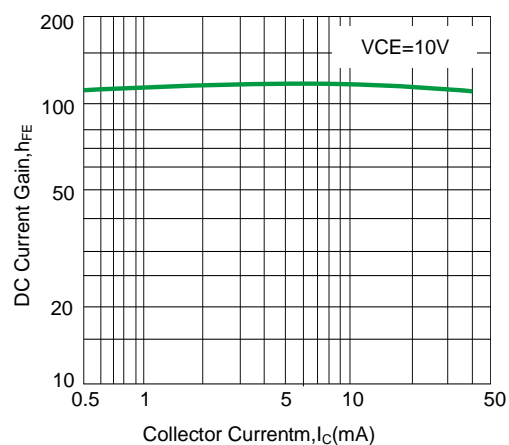


Fig 3.DC Current Gain VS Collector Current

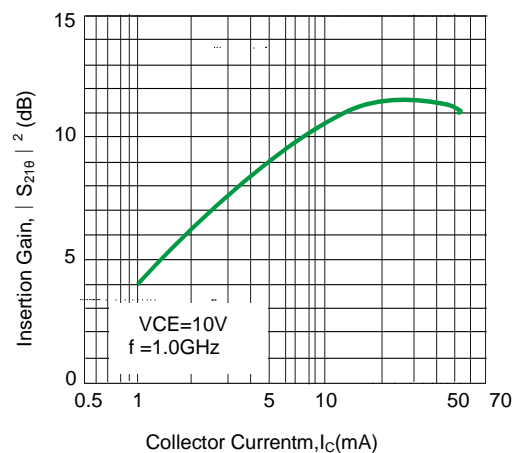


Fig 4.Insertion Gain VS Collector Current

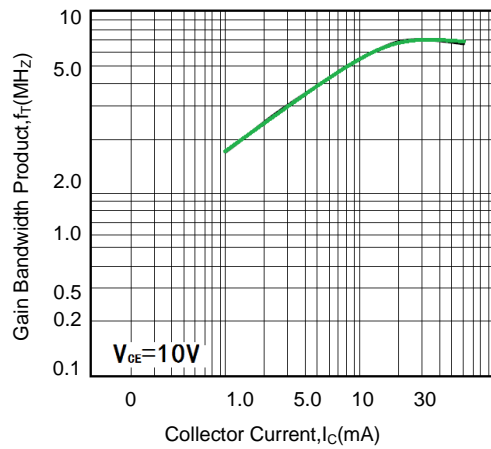


Fig 5. Gain Bandwidth Product VS Collector Current

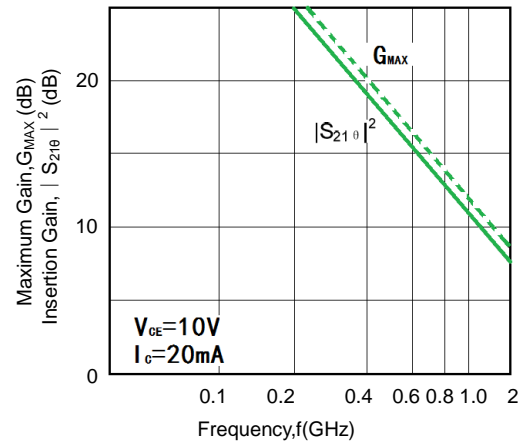


Fig 6. Insertion Gain, Maximum Gain VS Frequency

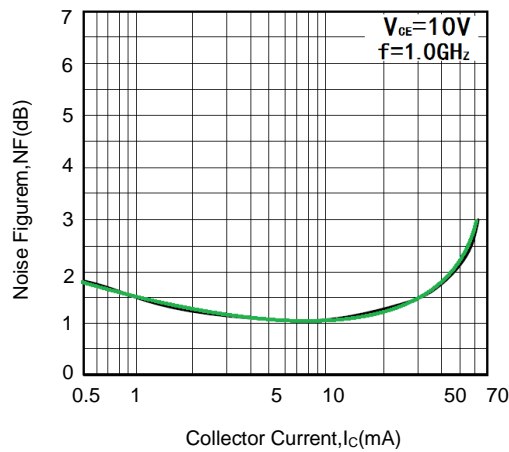


Fig 7. Noise Figure VS Collector Current

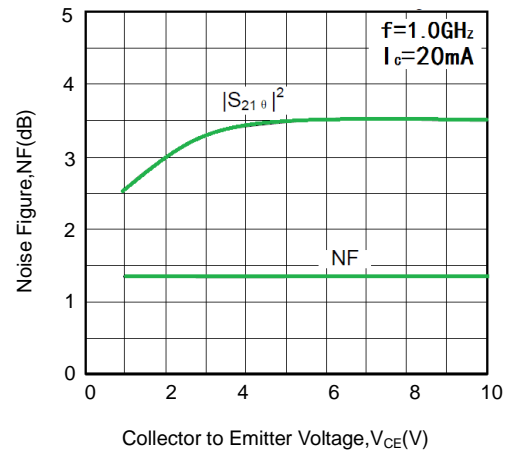
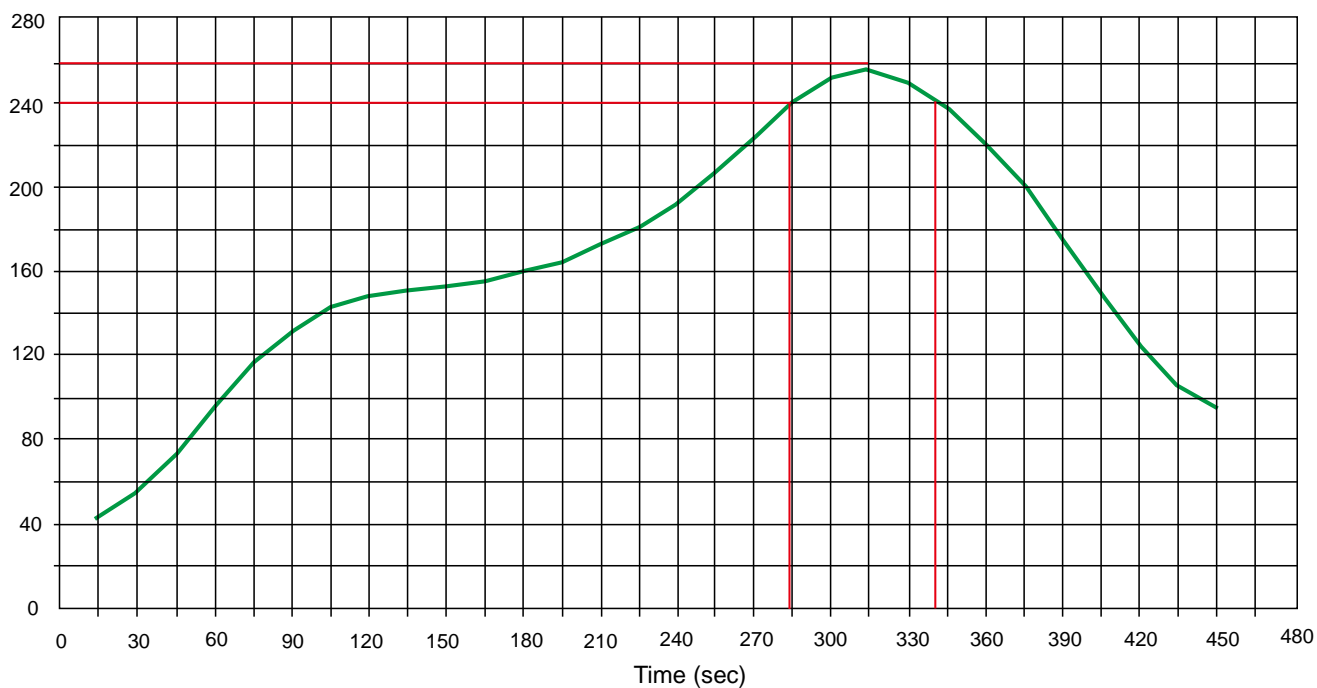


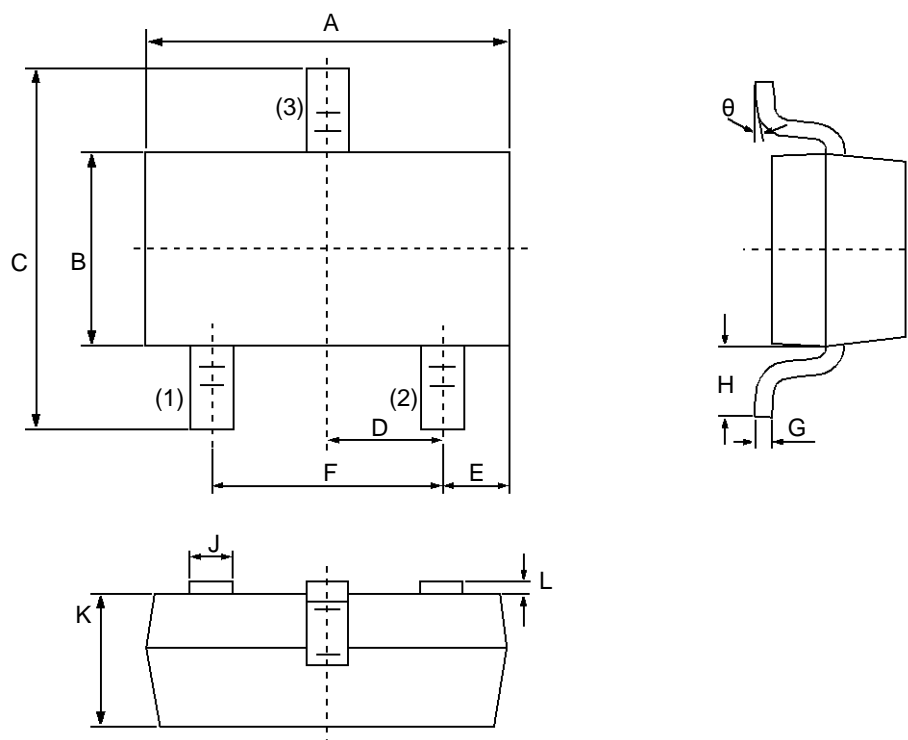
Fig 8. Noise Figure, Forward Insertion Gain VS Collector to Emitter Voltage

Solder Reflow Recommendation

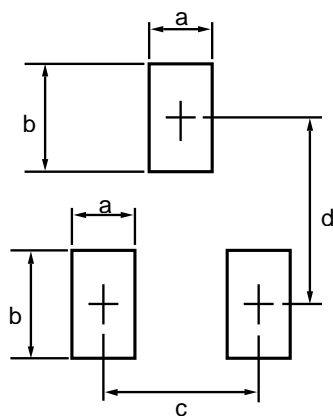
Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



Product dimension(SOT-23)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.80	3.00	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	2.10	2.50	0.0830	0.0984
D	0.89	1.02	0.0350	0.0401
E	0.45	0.60	0.0177	0.0236
F	1.78	2.04	0.0701	0.0807
G	0.085	0.177	0.0034	0.0070
H	0.45	0.60	0.0180	0.0236
J	0.37	0.50	0.0150	0.0200
K	0.89	1.11	0.0350	0.0440
L	0.013	0.100	0.0005	0.0040
θ	0°	10°	0°	10°




Dim	Millimeters	
	MIN	MAX
a	--	0.7
b	--	1.2
c	--	2.04
d	--	2.2

Ordering information

Device	Package	Shipping
2SC3356	SOT-23 (Pb-Free)	3000 / Tape & Reel


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