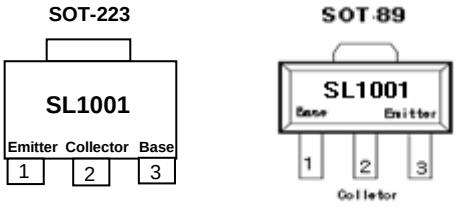
Audio Frequency Power Amplifier

SL1001



ORDERING INFORMATION

SL1001PT SOT-89

SL1001ET SOT-223

Features

- Low Speed Switching

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings Tc=25°C unless otherwise noted

Symbol	Parameter		Value	Units
VCBO	Collector-Base Voltage		- 40	V
VCEO	Collector-Emitter Voltage		- 30	V
VEBO	Emitter-Base Voltage		- 5	V
IC	Collector Current (DC)		- 3	A
ICP	*Collector Current (Pulse)		- 7	A
IB	Base Current (DC)		- 0.6	A
PC	Collector Dissipation	(TC=25°C)	10	W
Rθja	Junction to Ambient		132	°C/W
Rθjc	Junction to Case		13.5	°C/W
TJ	Junction Temperature		150	°C
TSTG	Storage Temperature		- 55 ~ 150	°C

* PW≤10ms, Duty Cycle≤50%

* Stresses beyond those listed under “absolute maximum ratings” may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated under “recommended operating conditions” is not implied.
Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

Electrical Characteristics Tc=25°C unless otherwise noted

Characteristics	Symbol	Unit	Measurement Mode	Min	Max
DC Current Gain (1), (2)	h_{FE}		V_{ce} =2V, I_c =20mA	30	
DC Current Gain (1), (2)	h_{FE}		V_{ce} = 2V, I_c = 1A	60	400
Collector Cut-off Current	I_{cbo}	μA	V_{cb} = 30V, I_e = 0		1.0
Collector Cut-off Current	I_{cbo}	μA	V_{cb} = 40V, I_e = 0		100
Emitter Cut-off Current	I_{ebo}	μA	V_{eb} = 3V, I_c = 0		1.0
Emitter Cut-off Current	I_{ebo}	μA	V_{eb} = 5V, I_c = 0		100
Collector-Emitter Saturation Voltage (1)	$V_{ce\ (sat)}$		Ic = 2 A, Ib = 0.2 A		0.5
			Ic = 0.8 A, Ib = 0.02 A		0.1
Base-Emitter Saturation Voltage (1)	$V_{be\ (sat)}$		Ic = 2 A, Ib = 0.2 A		2.0

(1) Pulse Test : Pulse Width ≤ 300μs. Duty Cycle ≤ 2%

(2) Measurement mode for a network with common base : Vcb = 1V, Ie=Ic

Typical Characteristics

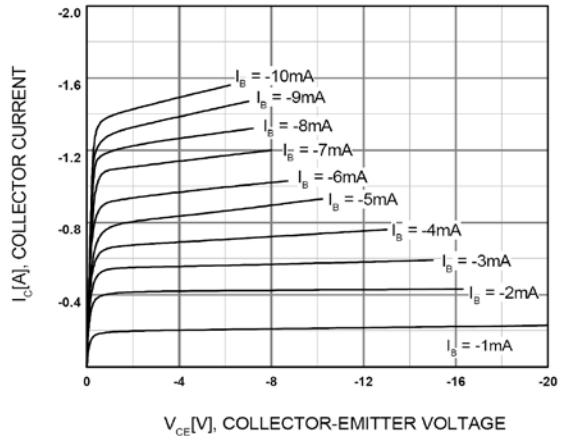


Figure 1. Static Characteristic

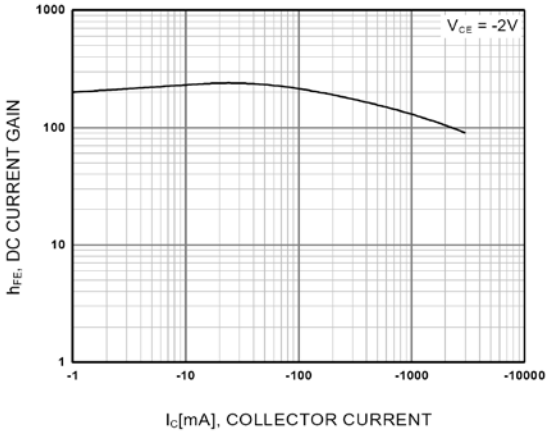


Figure 2. DC current Gain

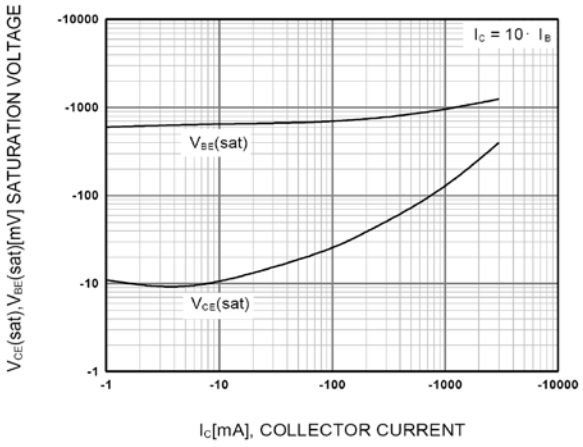


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

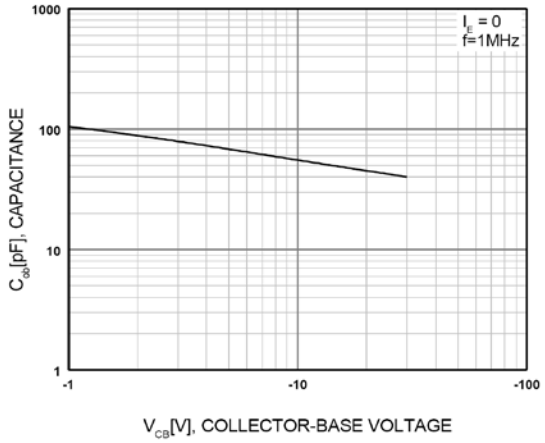


Figure 4. Collector Output Capacitance

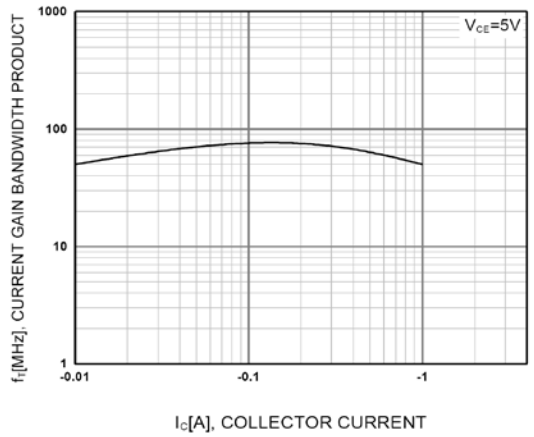


Figure 5. Current Gain Bandwidth Product

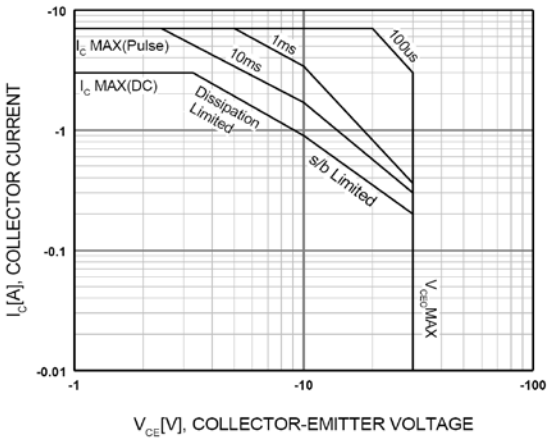


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

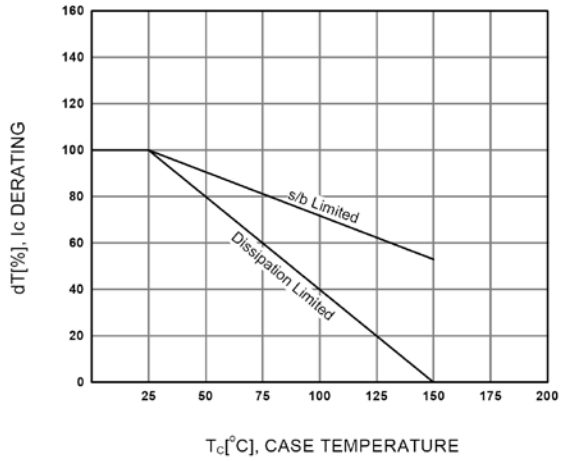


Figure 7. Derating Curve of Safe Operating Areas

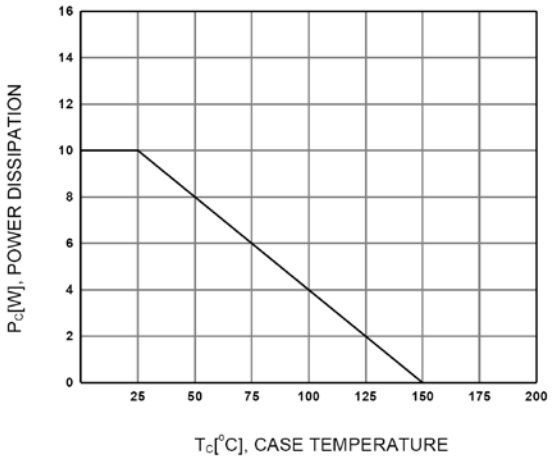
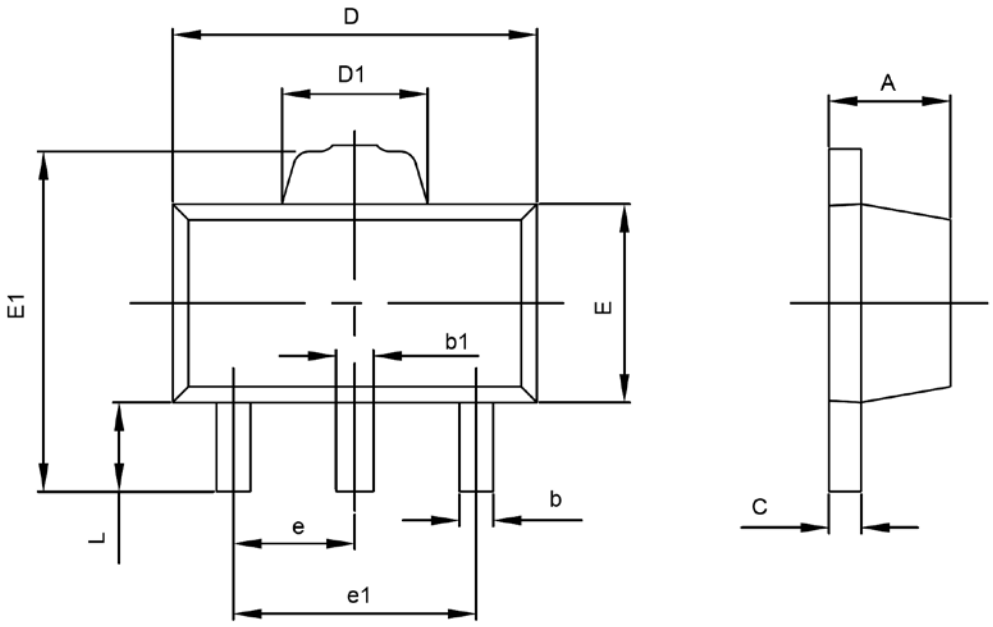


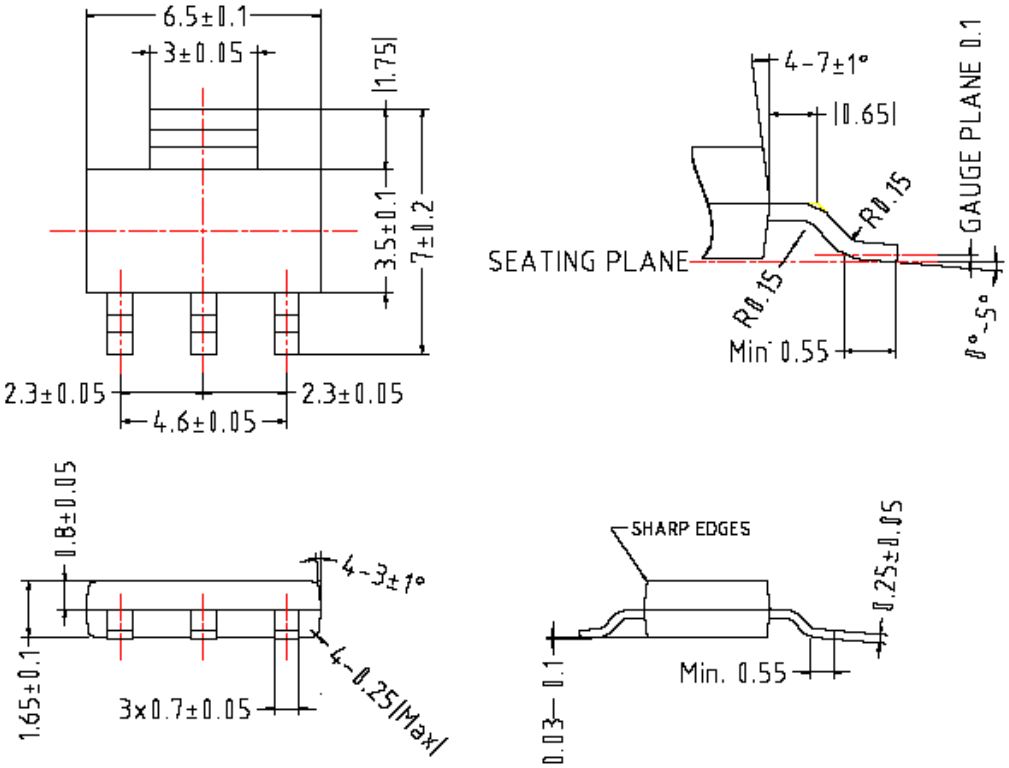
Figure 8. Power Derating

SOT-89-3L PACKAGE OUTLINE 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	0.360	0.560	0.014	0.022
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.400	1.800	0.055	0.071
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	2.900	3.100	0.114	0.122
L	0.900	1.100	0.035	0.043

SOT-223


6.5±0.1
3±0.05
1.75
3.5±0.1
7±0.2
2.3±0.05
2.3±0.05
4.6±0.05
4-7±1°
0.65
R0.15
GAUGE PLANE 0.1
SEATING PLANE
R0.15
Min 0.55
0°~5°
0.8±0.05
4-3±1°
1.65±0.1
4-0.25(Max)
3x0.7±0.05
SHARP EDGES
0.25±0.05
Min. 0.55
0.03~0.1