

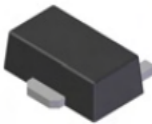
Silicon PNP Epitaxial Planer
Low Frequency Power Amplifier

Features

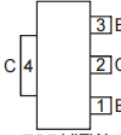
- Small size package: SOT89-3L
- Large Maximum current: $I_C = -1\text{ A}$
- Low collector to emitter saturation voltage: $V_{CE(sat)} = -0.15\text{ V max. (at } I_C/I_B = -0.5\text{ A/-0.05 A)}$
- High power dissipation: $P_C = 2\text{ W}$
- Complementary pair with 2SD2391

Outline

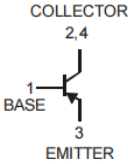
(Package name: SOT89-3L)



SOT89-3L



TOP VIEW



Schematic and Pin Configuration

Note: Marking is “BL”.

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base Voltage	V_{CBO}	-80	V
Collector to emitter voltage	V_{CEO}	-60	V
Emitter to base voltage	V_{EBO}	-5	V
Collector current	I_C	-3	A
Collector peak current	$i_{c(peak)}$	-6	A
Collector power dissipation	P_C	2	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Notes: 1. No purposefully added lead.

Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	-80	—	—	V	$I_C = -100\mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-60	—	—	V	$I_C = -10mA, I_B = 0$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -100\mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-0.1	μA	$V_{CB} = -60V, I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	-0.1	μA	$V_{EB} = -4V, I_C = 0$
DC current transfer ratio	h_{FE}	100	180	300	—	$V_{CE} = -2V, I_C = -50mA$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	-0.15	-0.3	V	$I_C = -1A, I_B = -100mA$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	-0.9	-1.25	V	$I_C = -1A, I_B = -100mA$
Gain bandwidth product	f_T	100	145	—	MHz	$V_{CE} = -10V, I_C = -50mA, f = 100MHz$
Collector output capacitance	C_{ob}	—	—	30	pF	$V_{CB} = -10V, I_E = 0, f = 1MHz$

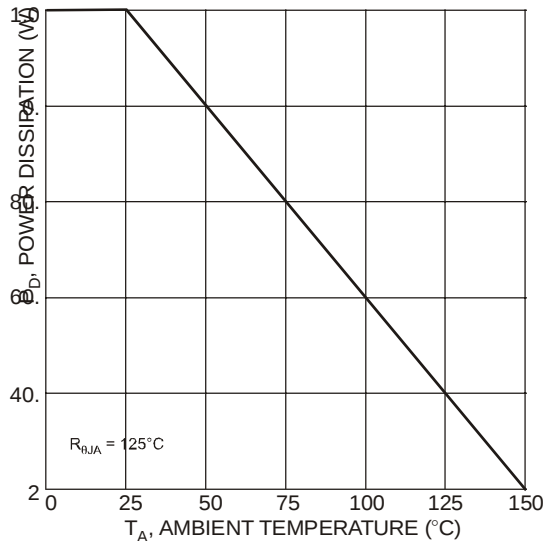


Fig. 1 Power Dissipation
vs. Ambient Temperature (Note 3)

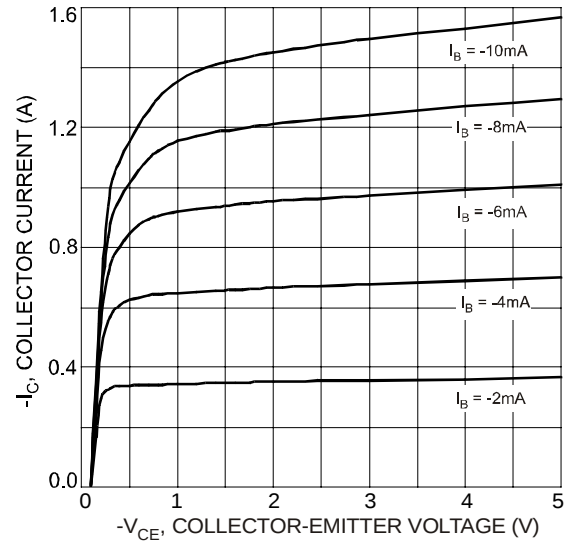


Fig. 2 Typical Collector Current
vs. Collector-Emitter Voltage

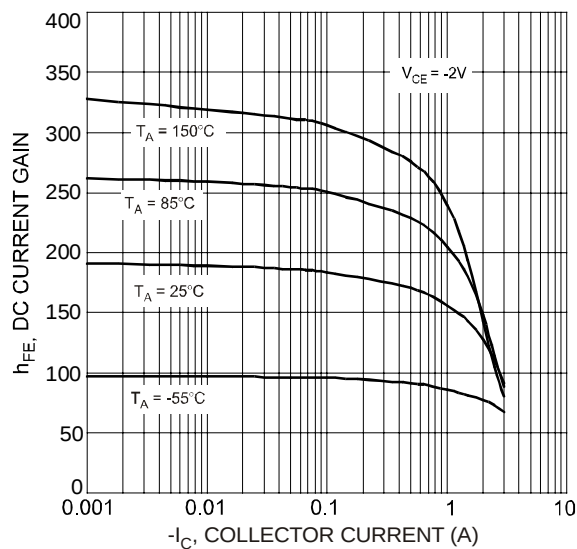


Fig. 3 Typical DC Current Gain vs. Collector Current

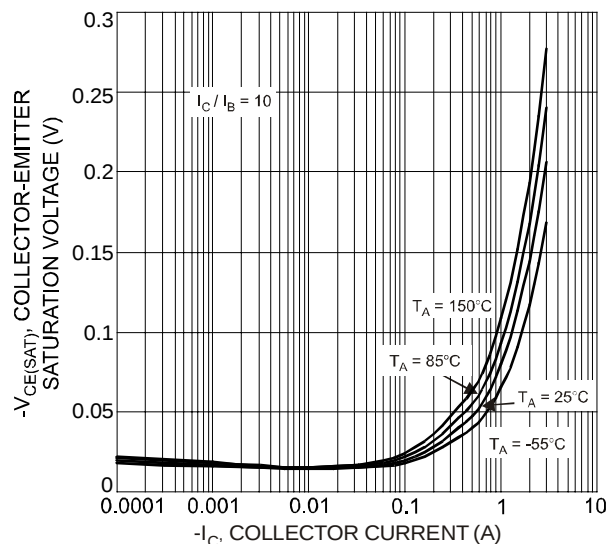


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

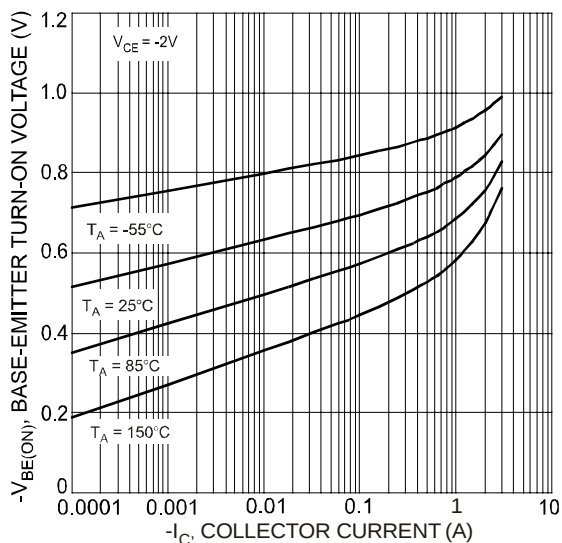


Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

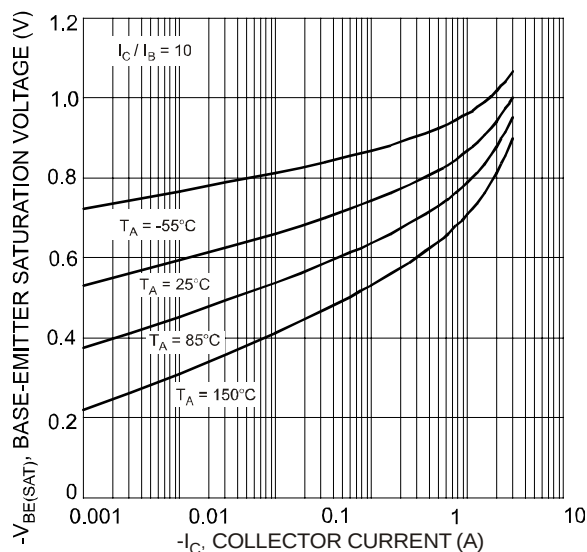


Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

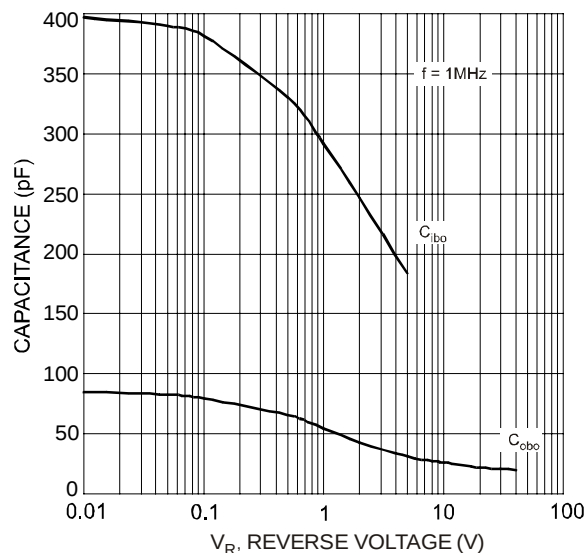


Fig. 7 Typical Capacitance Characteristics

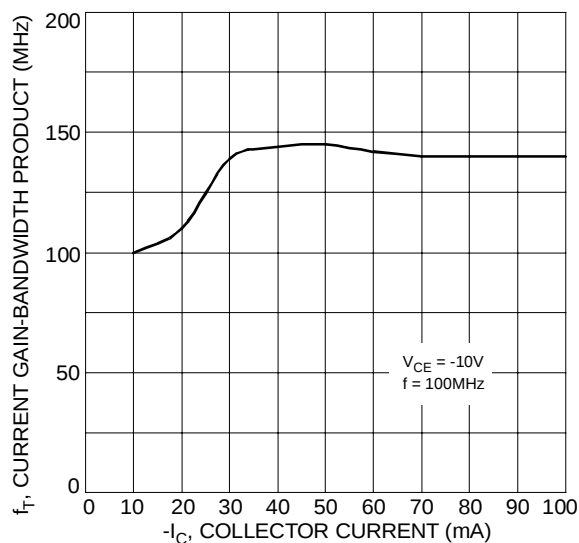
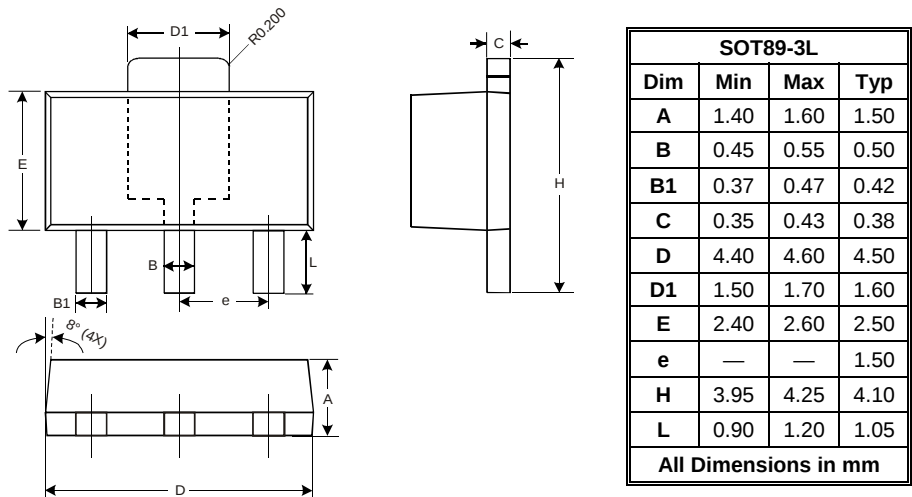


Fig. 8 Typical Gain-Bandwidth Product vs. Collector Current

Ordering Information (Note 5)

Device	Packaging	Shipping
2SB1561	SOT89-3L	1000/Tape & Reel

Package Outline Dimensions



Suggested Pad Layout

