优尚

YOUSHANG SEMICONDUCTOR

设计研发新型功率器件

各类小信号开关

中低压及高压大电流等场效应管

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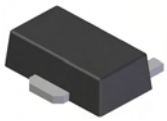
Features

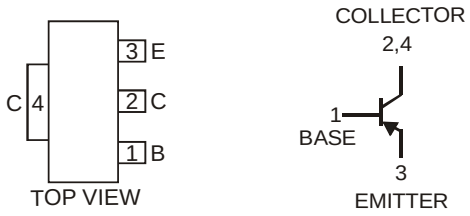
- Epitaxial Planar Die Construction
- Complementary NPN Type Available (NK-DXTA42)
- Ideally Suited for Automated Assembly Processes
- Ideal for Medium Power Switching or Amplification Applications



SOT89-3L

Mechanical Data

- Case: SOT89-3L
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Matte Tin annealed over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Marking & Type Code Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.072 grams (approximate)



Schematic and Pin Configuration

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-300	V
Collector-Emitter Voltage	V_{CEO}	-300	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-500	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3) @ T_A = 25°C	P_D	1	W
Thermal Resistance, Junction to Ambient (Note 3)	$R_{\theta JA}$	125	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
OFF CHARACTERISTICS (Note 4)						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-300	—	—	V	I_C = -100μA, I_E = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-300	—	—	V	I_C = -1mA, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	—	—	V	I_E = -100μA, I_C = 0
Collector-Base Cut-off Current	I_{CBO}	—	—	-0.25	μA	V_{CB} = -200V, I_E = 0
Emitter-Base Cut-off Current	I_{EBO}	—	—	-0.1	μA	V_{EB} = -3V, I_C = 0A
ON CHARACTERISTICS (Note 4)						
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	—	-0.5	V	I_C = -20mA, I_B = -2mA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	—	—	-0.9	V	I_C = -20mA, I_B = -2mA
Static Forward Current Transfer Ratio	h_{FE}	25 40 25	— — —	— — —	V	I_C = -1mA, V_{CE} = -10V I_C = -10mA, V_{CE} = -10V I_C = -30mA, V_{CE} = -10V
SMALL SIGNAL CHARACTERISTICS						
Gain-Bandwidth Product	f_T	50	—	—	MHz	I_C = -10mA, V_{CE} = -20V, f = 100MHz
Output Capacitance	C_{obo}	—	—	6	pF	V_{CB} = -20V, f = 1MHz

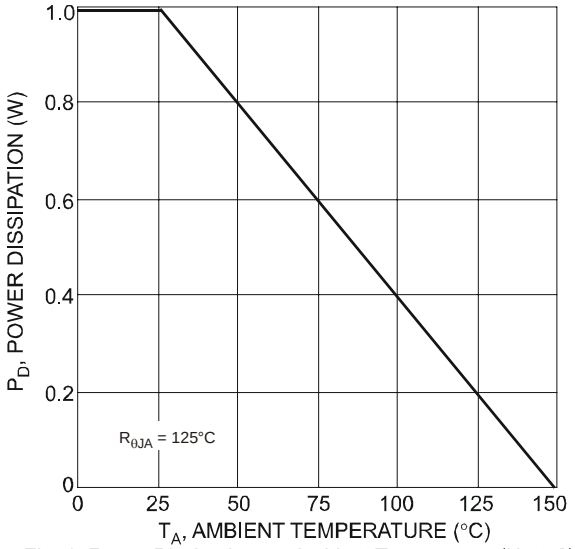


Fig. 1, Power Dissipation vs. Ambient Temperature (Note 3)

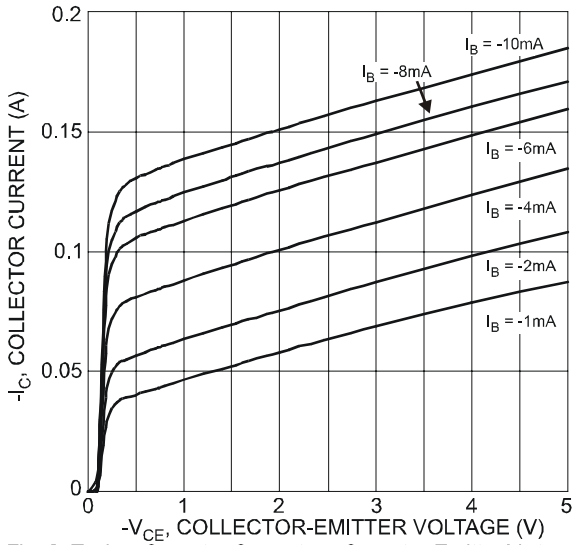


Fig. 2, Typical Collector Current vs. Collector-Emitter Voltage

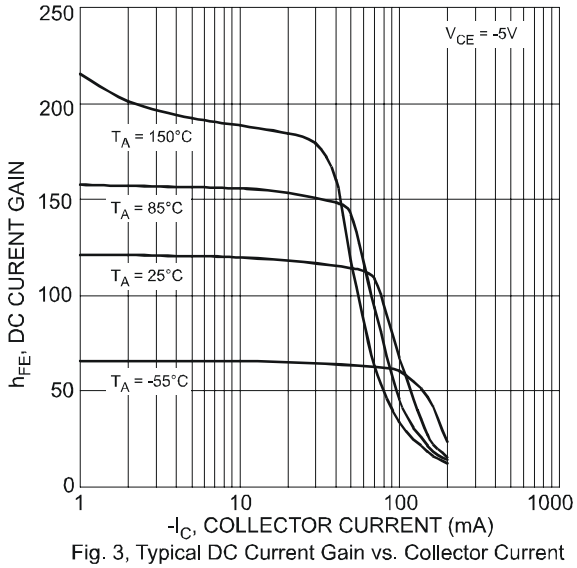


Fig. 3, Typical DC Current Gain vs. Collector Current

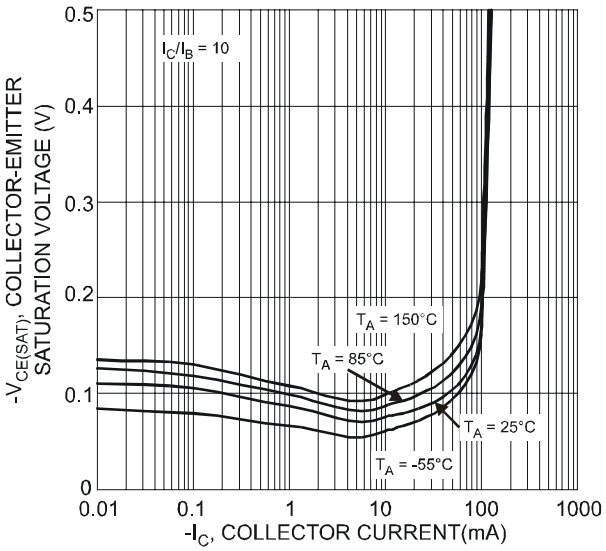


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

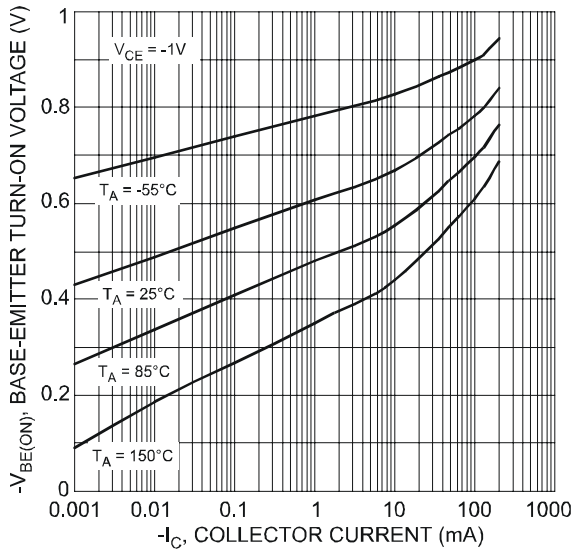


Fig. 5, Typical Base-Emitter Turn-On Voltage vs. Collector Current

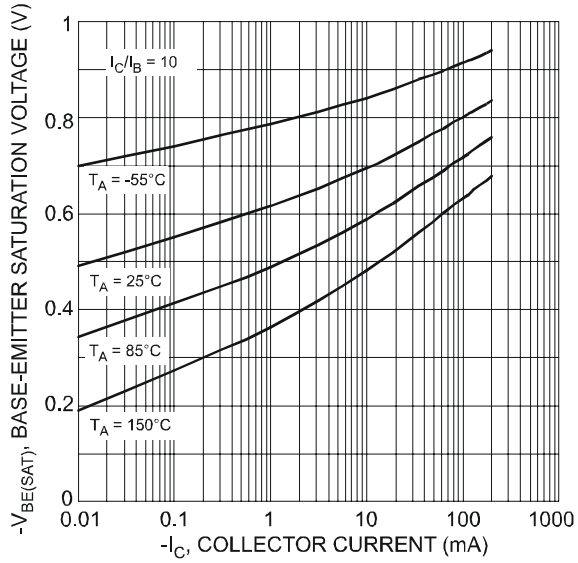


Fig. 6, Typical Base-Emitter Saturation Voltage vs. Collector Current

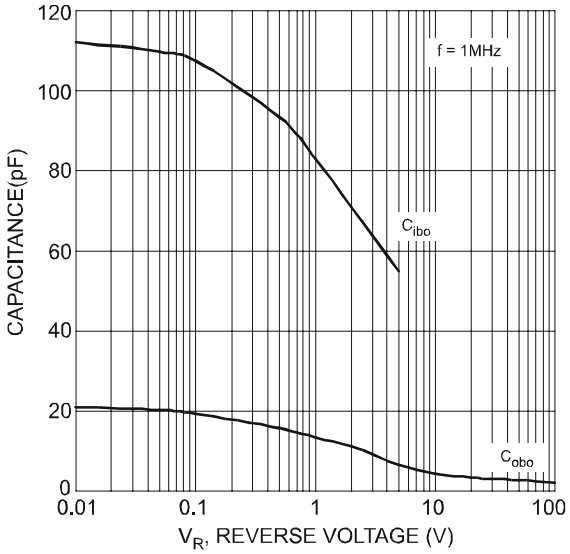


Fig. 7, Typical Capacitance Characteristics

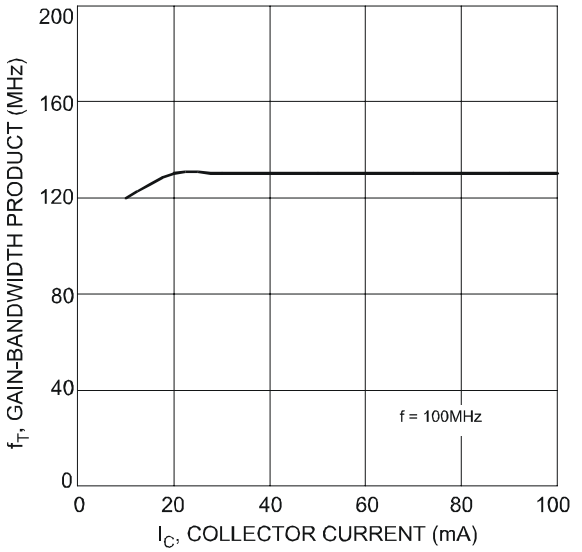
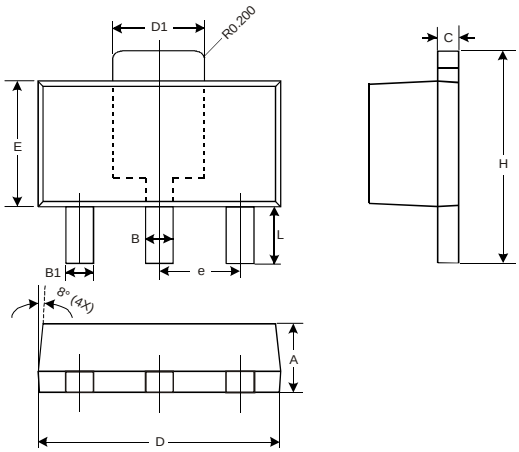


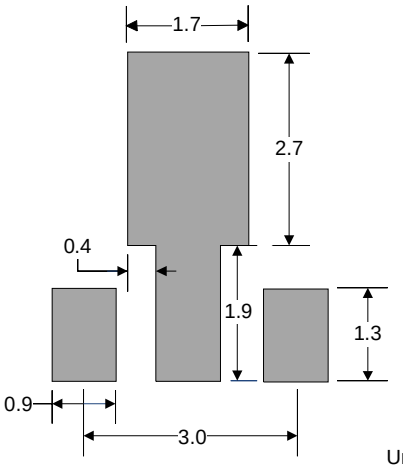
Fig. 8, Typical Gain-Bandwidth Product vs. Collector Current

Package Outline Dimensions



SOT89-3L			
Dim	**Min**	**Max**	**Typ**
A	1.40	1.60	1.50
B	0.45	0.55	0.50
B1	0.37	0.47	0.42
C	0.35	0.43	0.38
D	4.40	4.60	4.50
D1	1.50	1.70	1.60
E	2.40	2.60	2.50
e	—	—	1.50
H	3.95	4.25	4.10
L	0.90	1.20	1.05
All Dimensions in mm			

Suggested Pad Layout



Unit: mm