

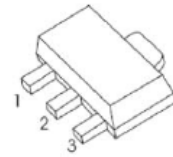
## TRANSISTOR (PNP)

### SOT-89-3L Plastic-Encapsulate Transistors

#### FEATURES

- Low Voltage
- High Current
- AEC-Q101 qualified (Automotive grade with suffix "Q.")
- Exsemi technology

#### SOT-89-3L



1. BASE
2. COLLECTOR
3. EMITTER

#### MAKING: D882H

#### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	70	V
$V_{CE0}$	Collector-Emitter Voltage	70	V
$V_{EB0}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	3	A
$P_C$	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance from Junction to Case	35	$^\circ\text{C}/\text{W}$
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^\circ\text{C}$

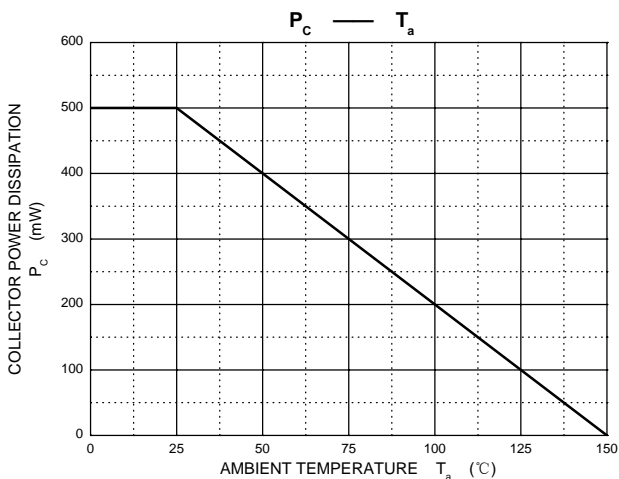
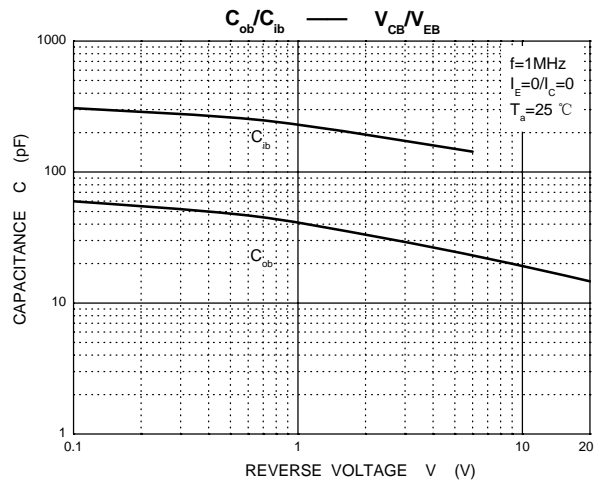
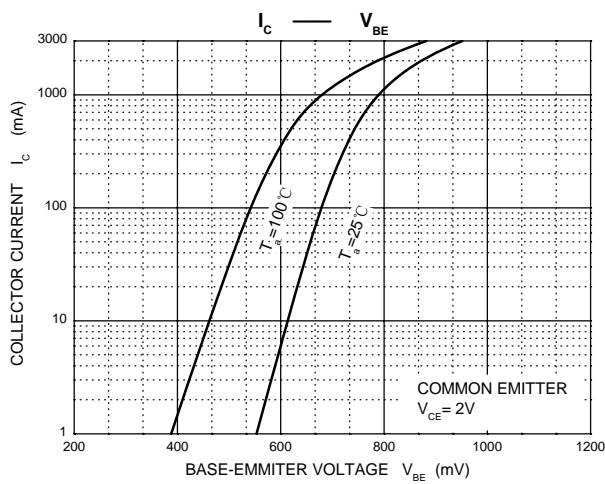
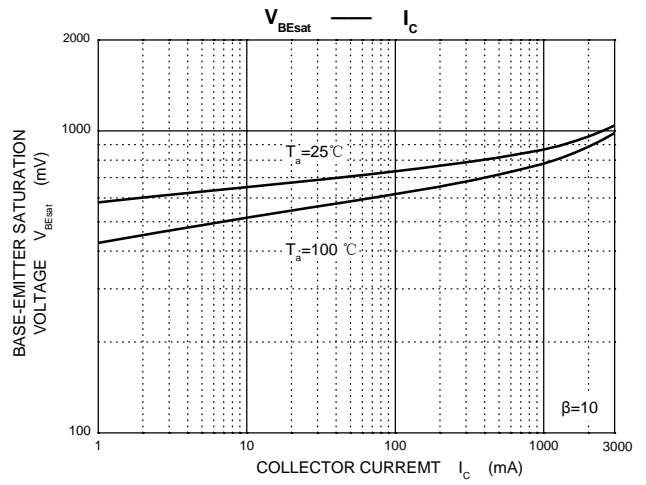
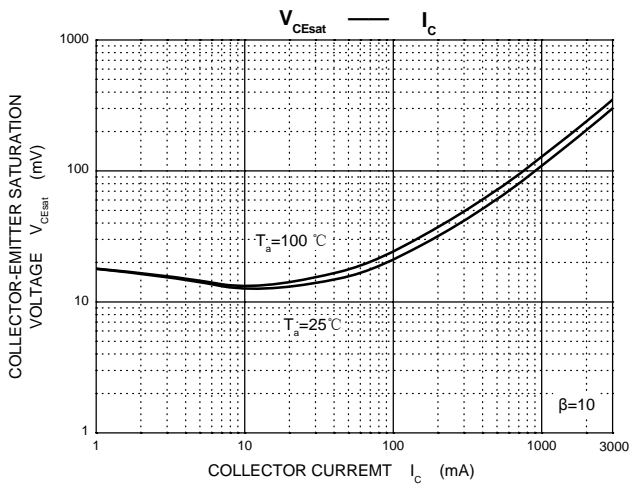
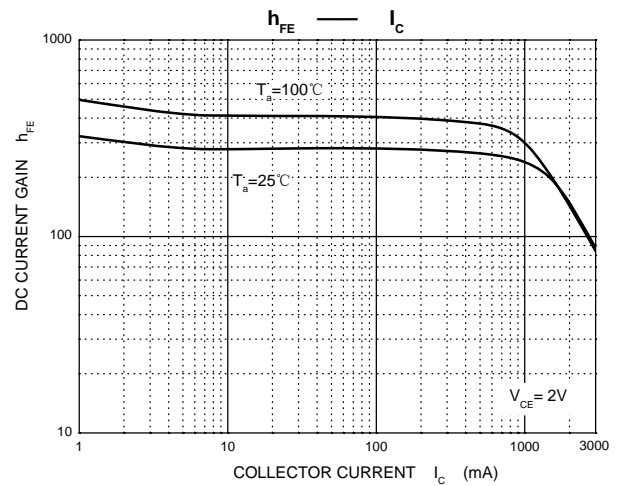
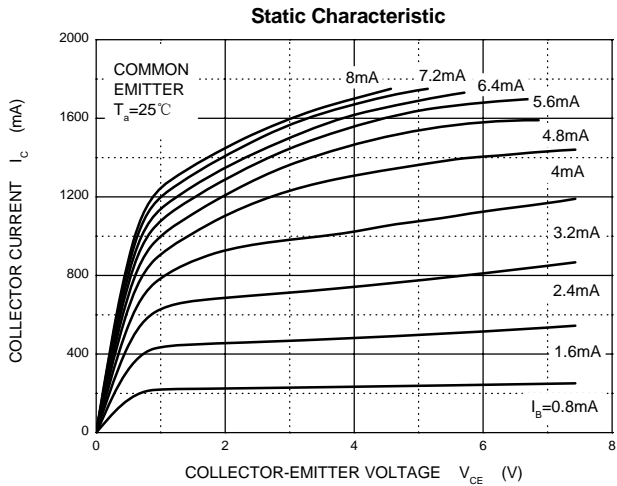
#### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CB0}$	$I_C=100\mu\text{A}, I_E=0$	70			V
Collector-emitter breakdown voltage	$V_{(BR)CE0}$	$I_C=10\text{mA}, I_B=0$	70			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	6			V
Collector cut-off current	$I_{CB0}$	$V_{CB}=40\text{V}, I_E=0$			1	$\mu\text{A}$
Collector cut-off current	$I_{CE0}$	$V_{CE}=30\text{V}, I_B=0$			10	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=6\text{V}, I_C=0$			1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=2\text{V}, I_C=1\text{A}$	60		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2\text{A}, I_B=0.2\text{A}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2\text{A}, I_B=0.2\text{A}$			1.5	V
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=0.1\text{A}, f=10\text{MHz}$	50			MHz

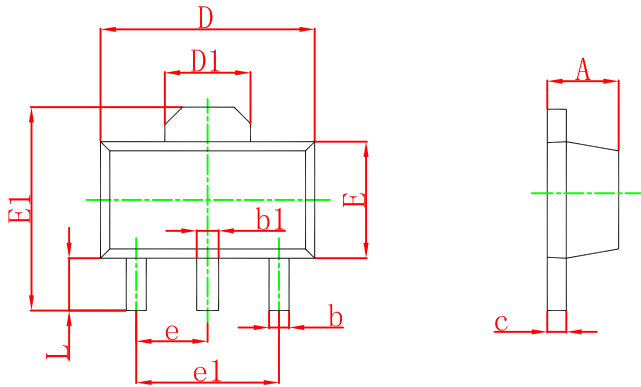
#### CLASSIFICATION of $h_{FE}$

Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400

Typical Characteristics

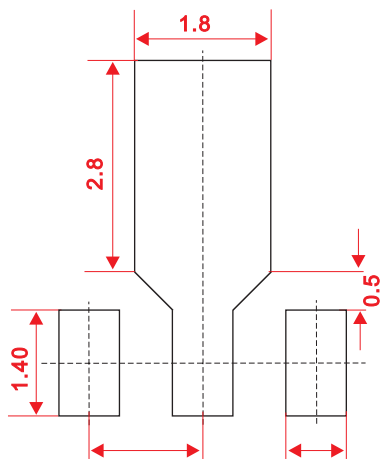


## SOT-89-3L Package Outline Dimensions



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	0.400	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

## SOT-89-3L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.