

SuperTransistor – V_{CBO} -40V, I_C -1500mA SOT-89-3L Plastic-Encapsulate PNP Transistors

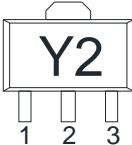
1. Features

- Power dissipation of 500mW
- High stability and high reliability

2. Mechanical Data

- SOT-89-3L Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

3. Pin configuration

Pin	Function	Outline
1	Base	
2	Collector	
3	Emitter	

4. Specification

Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-25	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-1500	mA
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{STG}	-55~150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	250	°C/W

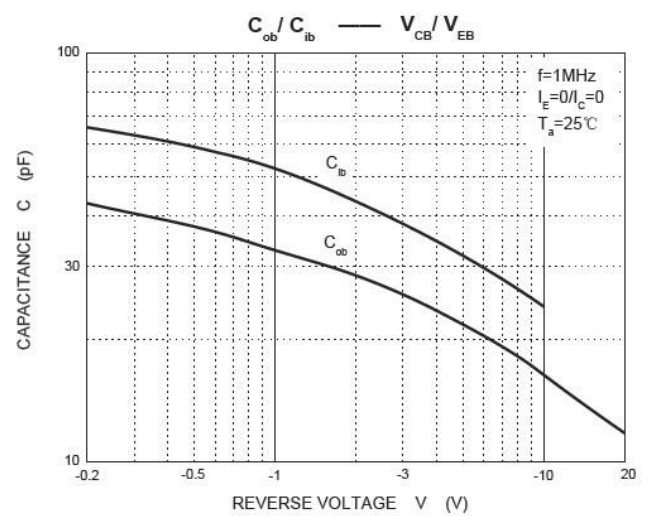
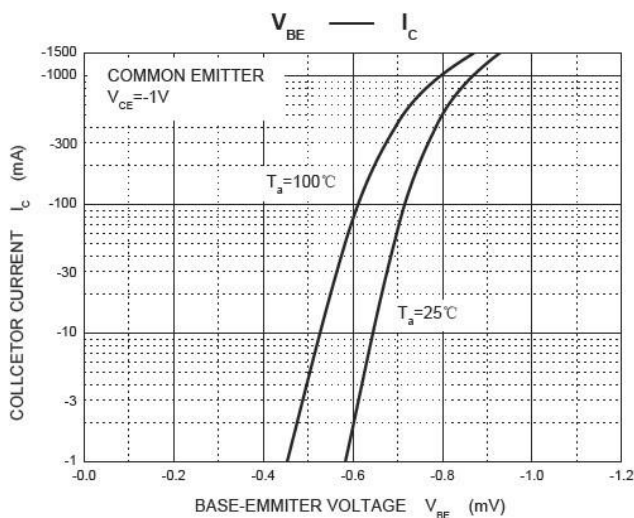
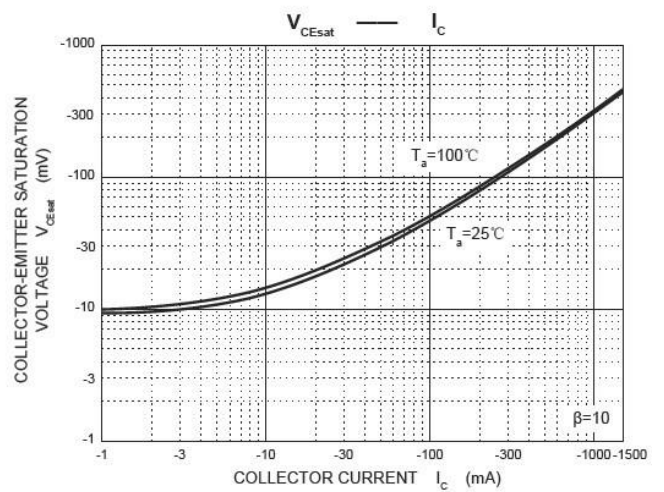
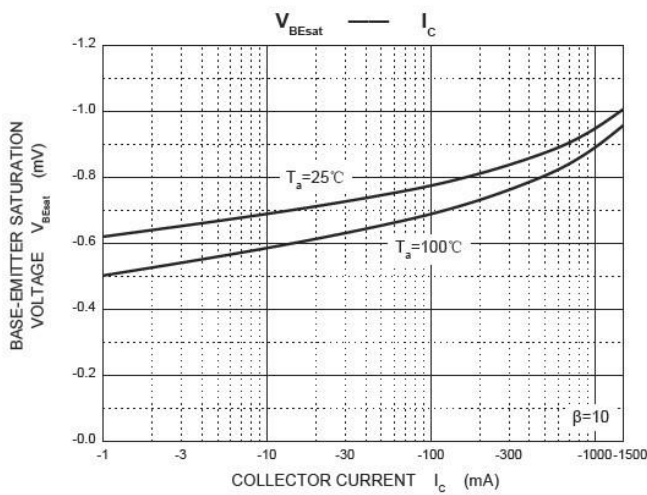
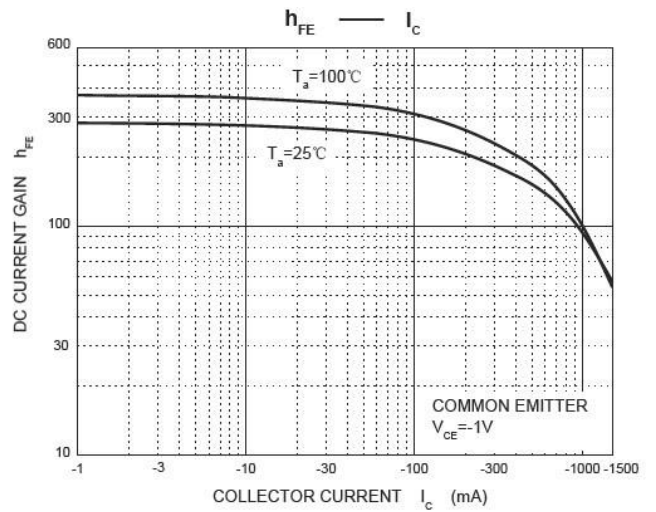
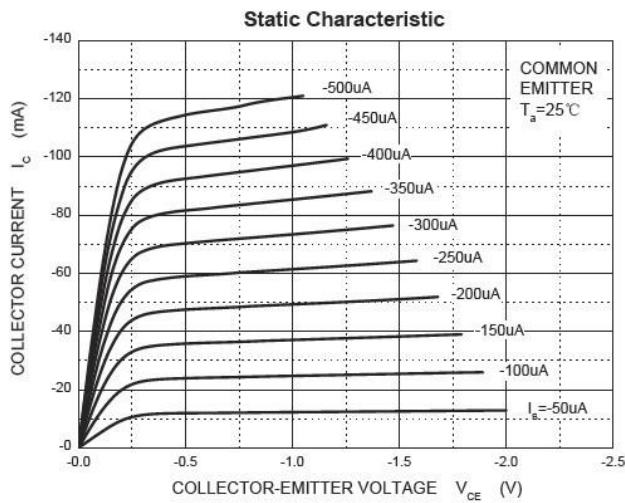
Electrical Characteristics (At $T_A = 25^\circ\text{C}$ unless otherwise specified)

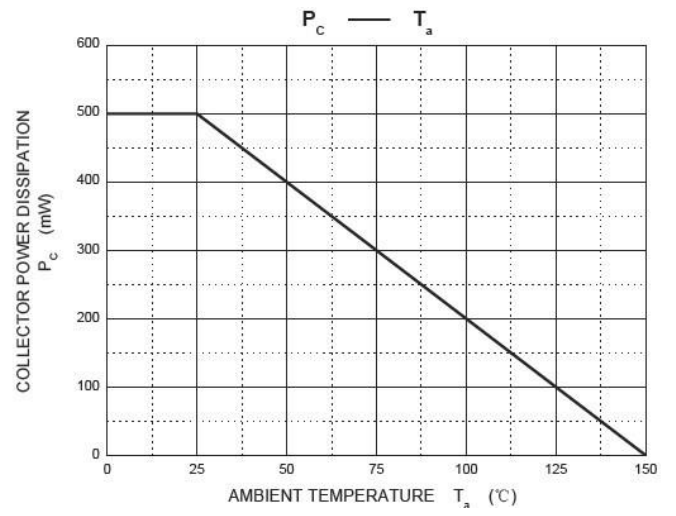
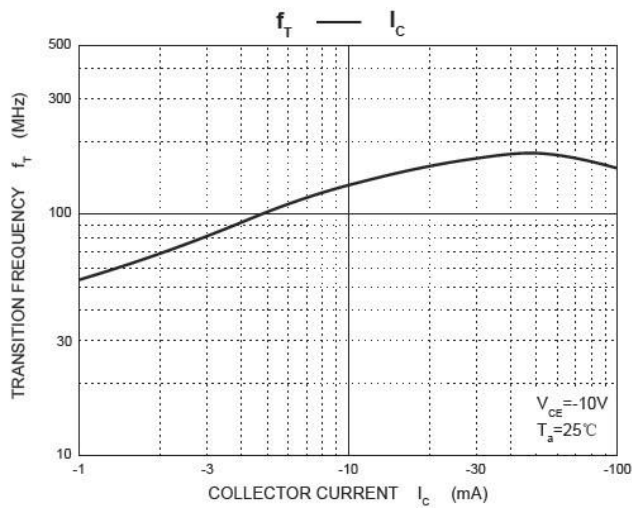
Parameters	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -0.1\text{mA}, I_B = 0$	-25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	I_{CEO}	$V_{CE} = -20\text{V}, I_B = 0$		-100	nA
	I_{CBO}	$V_{CB} = -40\text{V}, I_E = 0$		-100	nA
	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$		-100	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	85	400	
	$h_{FE(2)}$	$V_{CE} = -1\text{V}, I_C = -800\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -800\text{mA}, I_B = -80\text{mA}$		-0.50	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C = -800\text{mA}, I_B = -80\text{mA}$		-1.20	V
Base -emitter voltage	V_{BE}	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$		-1.00	V
Base -emitter positive favor voltage	V_{BEF}	$I_B = -1\text{A}$		-1.55	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -50\text{mA}, f = 30\text{MHz}$	100		MHz
Output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		15	pF

Classification of h_{FE}

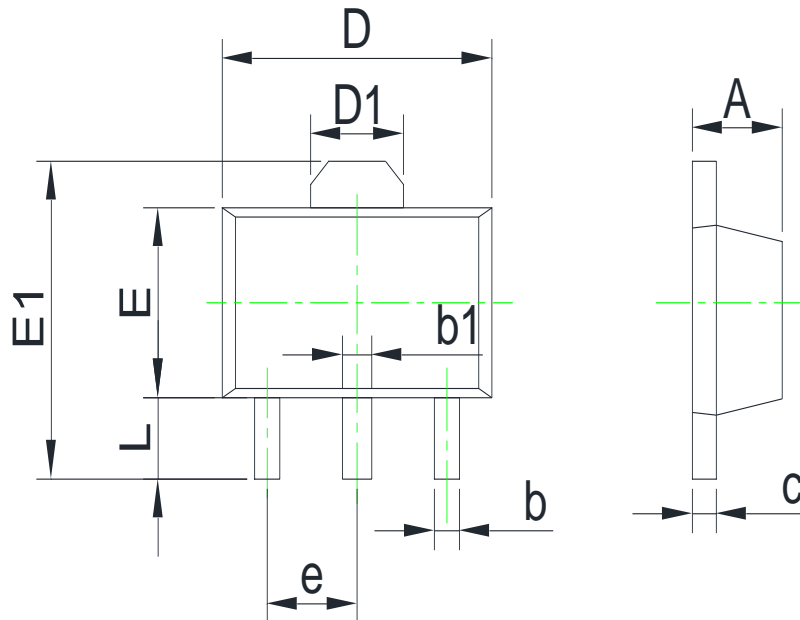
Rank	B	C	D	D3
Range	85~160	120~200	160~300	300~400

5. Typical Characteristic



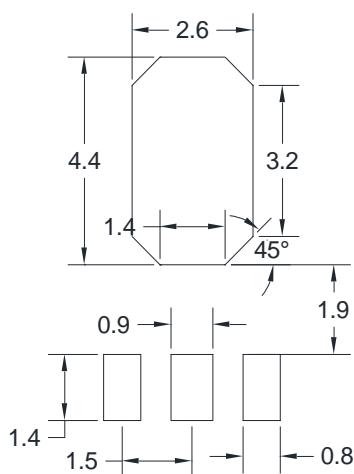


6. Dimension (SOT-89-3L)



Units: mm

Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	1.40	1.60	D1	1.55REF	
b	0.32	0.52	E	2.30	2.60
b1	0.40	0.58	E1	3.94	4.25
c	0.35	0.44	e	1.50TYP	
D	4.40	4.60	L	0.90	1.20



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference only
4. Unit: m

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