

PXT8050

Rev-1.1

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

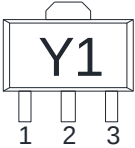
1. Features

- 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

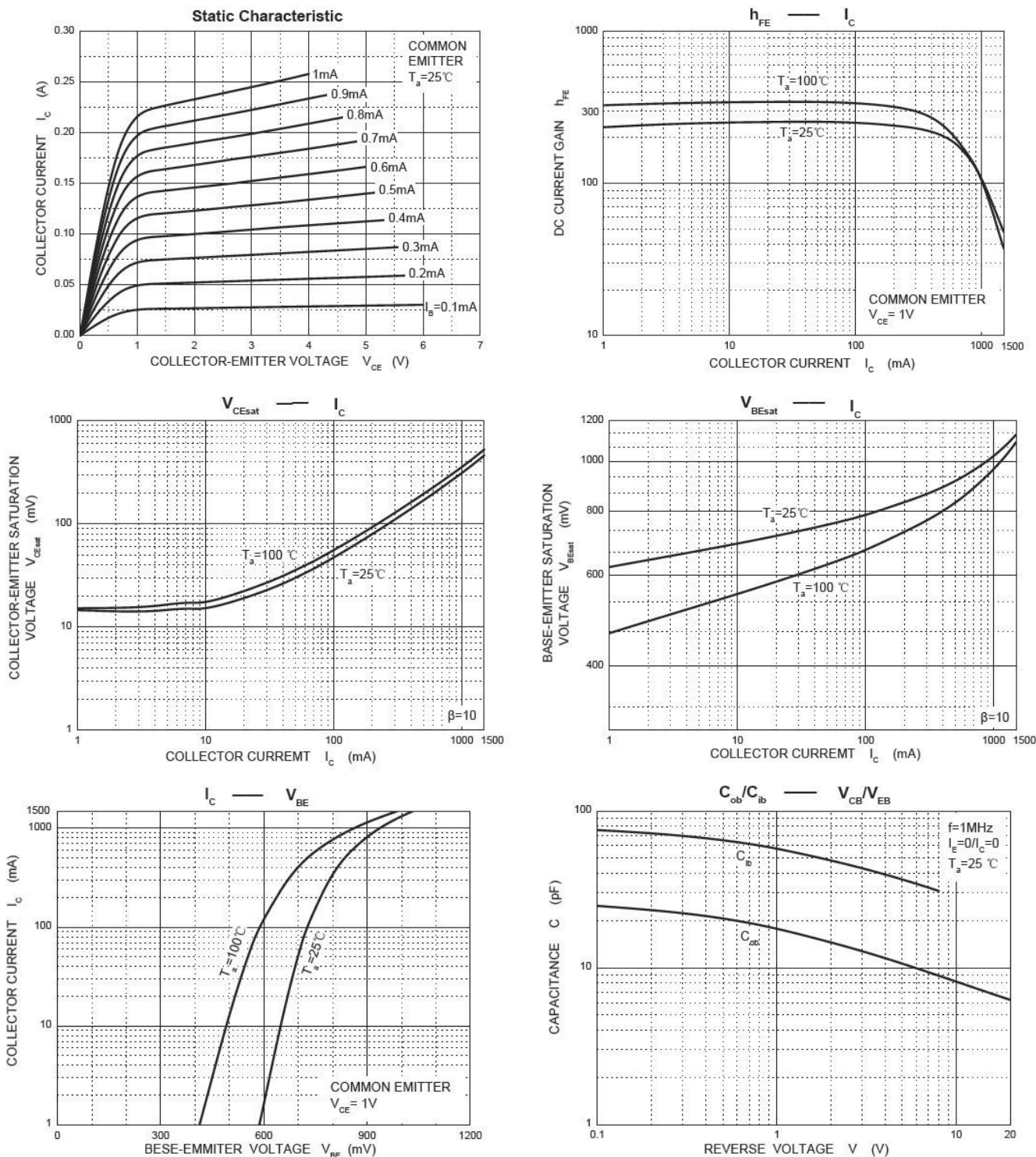
Electrical Characteristics (At $T_A = 25^\circ\text{C}$ unless otherwise specified)

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}	$V_{CE}=1\text{V}, I_C=10\text{mA}$		1.0	V
Base -emitter positive forward 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}

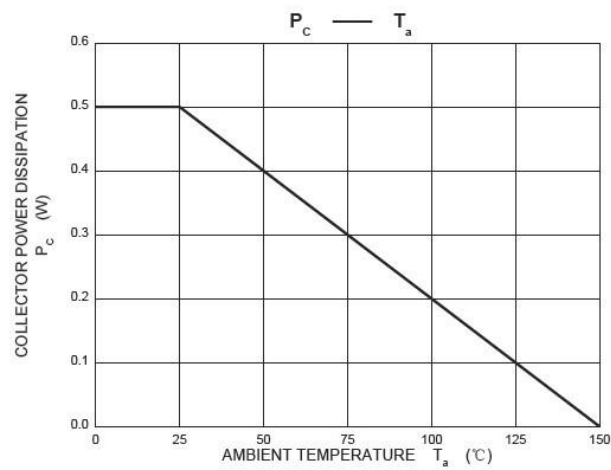
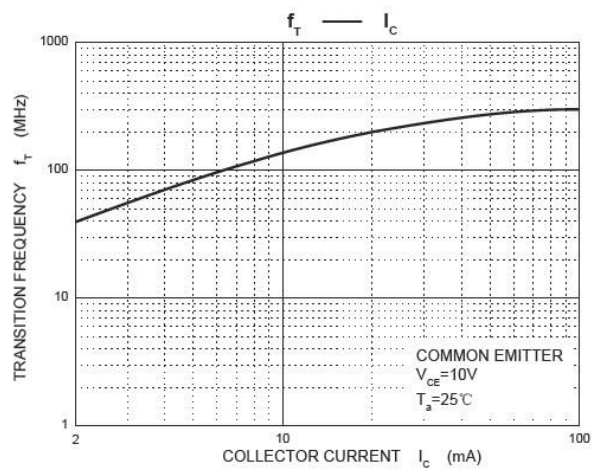
Rank	B	C	D	D3
Range	85~160	120~200	160~300	300~400

5. Typical Characteristic

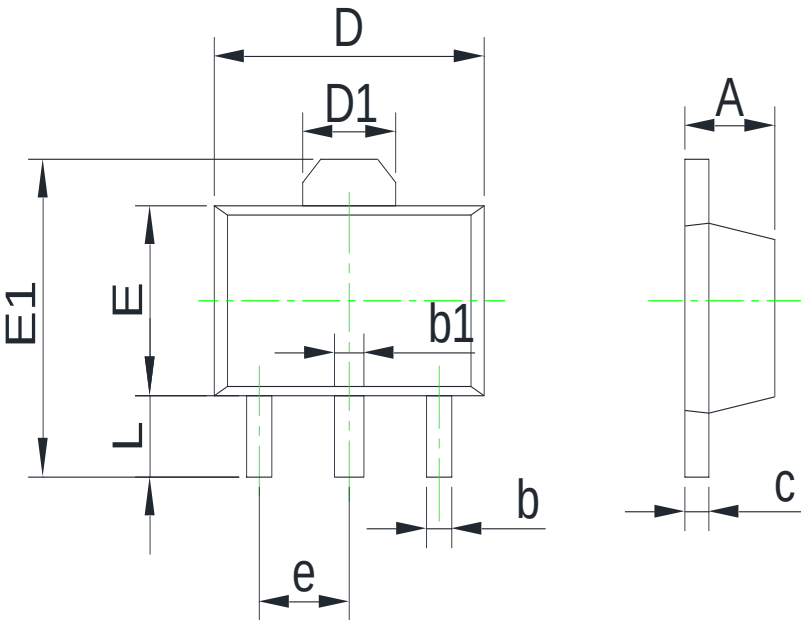


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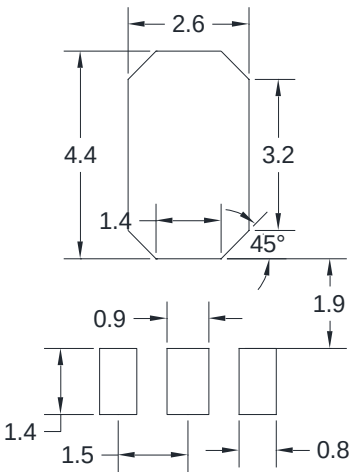


6. Dimension and Patterns (SOT-89-3L)



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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