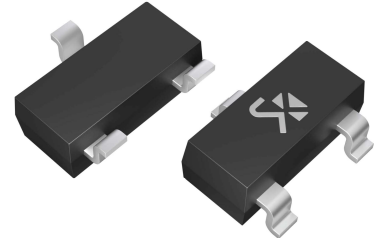


## SOT-23 Plastic-Encapsulate PNP Transistors

### 1. Features

- Complementary to S9013S
- Power dissipation of 300mW
- High stability and high reliability

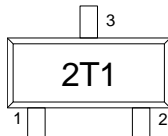


SOT-23

### 2. Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

### Pin configuration

Pin	Function	Outline
1	Base	
2	Emitter	
3	Collector	

### Specification

#### Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-30	V
Emitter-Base Voltage	$V_{EBO}$	-8	V
Collector Current-Continuous	$I_C$	-500	mA
Collector Power Dissipation	$P_C$	300	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{STG}$	-55~150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	416	°C/W

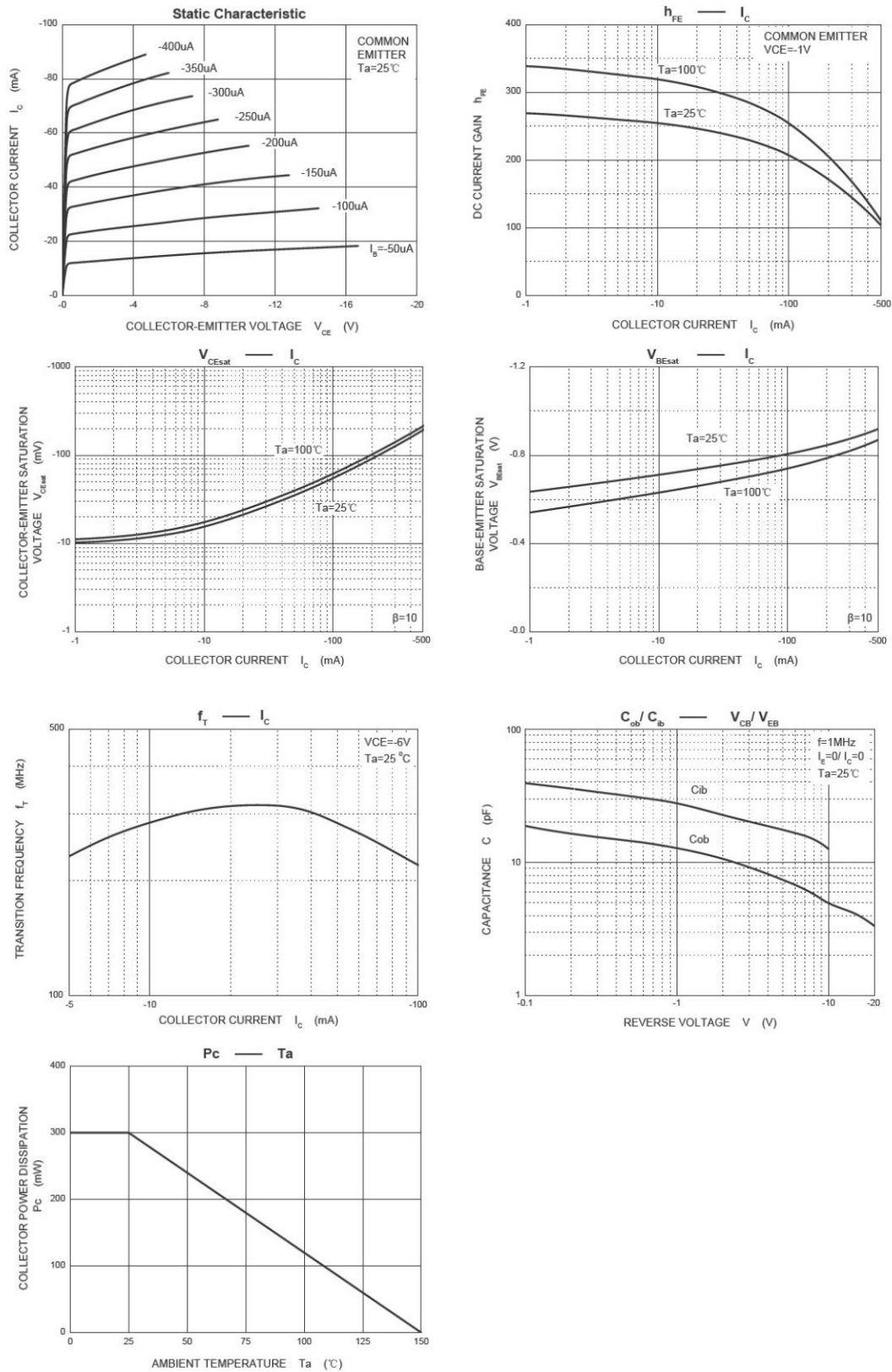
Electrical Characteristics (At TA = 25°C unless otherwise specified)

Parameters	Symbols	Test Condition	Limits			
			Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu A, I_E = 0$	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -50\mu A, I_C = 0$	-8			V
Collector cut-off current	$I_{CEO}$	$V_{CE} = -20V, I_B = 0$			-100	nA
	$I_{CBO}$	$V_{CB} = -35V, I_E = 0$			-100	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4V, I_C = 0$			-100	nA
DC current gain	$h_{FE}$	$V_{CE} = -1V, I_C = -50mA$	85		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$			-0.60	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500mA, I_B = -50mA$			-1.20	V
Transition frequency	$f_T$	$V_{CE} = -6V, I_C = -20mA,$ $f = 30MHz$	150			MHz
Collector output capacitance	$C_{OB}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$			5	pF

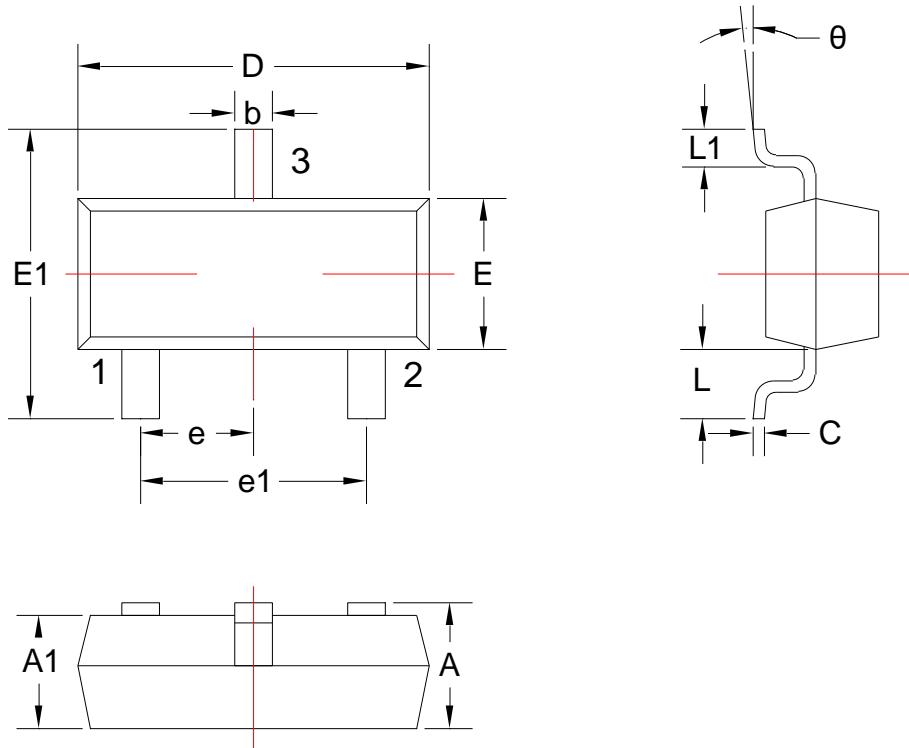
Classification of  $h_{FE}$

Rank	L	H	J
Range	120~200	200~350	300~400

## 5. Typical Characteristic

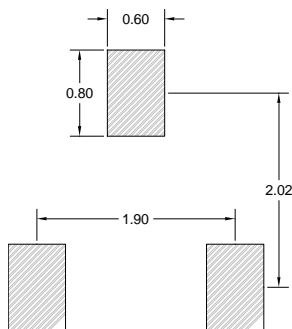


## 6. Dimension and Patterns (SOT-23)



Units: mm

Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	0.900	1.150	E1	2.250	2.550
A1	0.900	1.050	e	0.950TYP	
b	0.300	0.500	e1	1.800	2.000
c	0.080	0.150	L	0.550REF	
D	2.800	3.00	L1	0.300	0.500
E	1.200	1.400	$\theta$	0°	8°



Note:

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