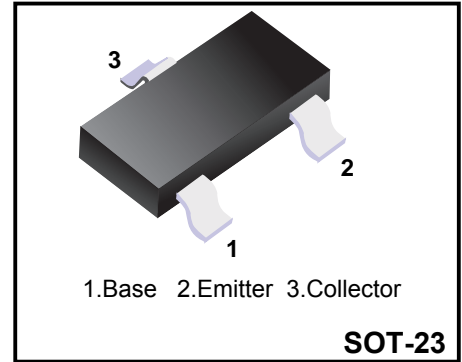


**PNP Silicon Epitaxial Planar Transistor**

The transistor is subdivided into three groups Q, R and S according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.


**Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )**

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Current	$-I_C$	150	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-55 to +150	$^\circ\text{C}$

**Characteristics at  $T_{amb}=25\text{ }^\circ\text{C}$** 

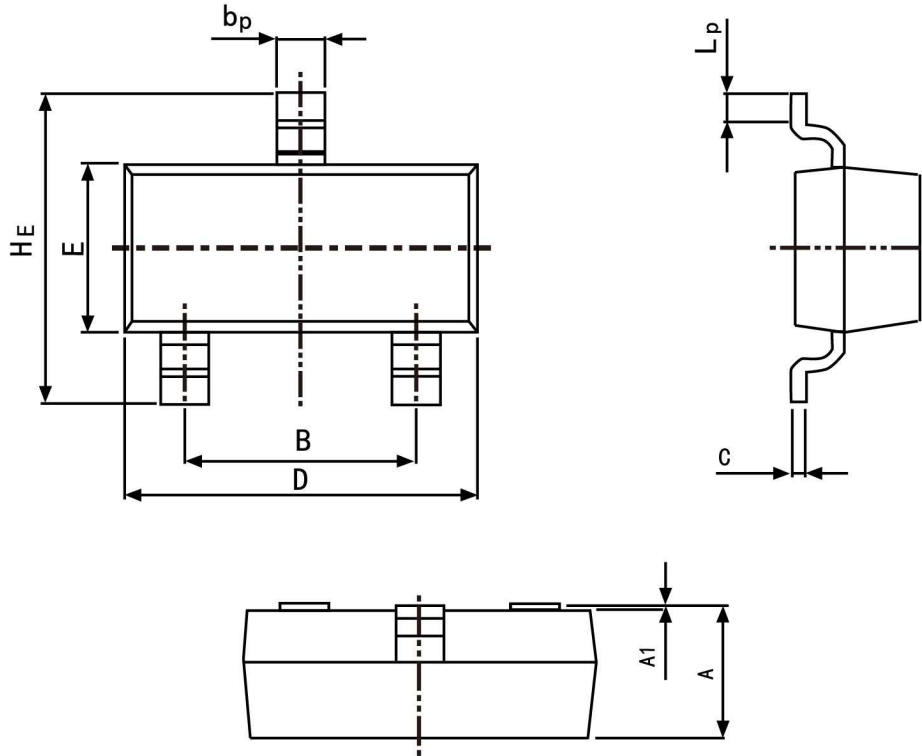
Parameter	Symbol	Min.	Max.	Unit	
DC Current Gain at $-V_{CE}=6\text{V}$ , $-I_C=1\text{mA}$	Q	$h_{FE}$	120	270	-
	R	$h_{FE}$	180	390	-
	S	$h_{FE}$	270	560	-
Collector Cutoff Current at $-V_{CB}=60\text{V}$	$-I_{CBO}$	-	0.1	$\mu\text{A}$	
Emitter Cutoff Current at $-V_{EB}=6\text{V}$	$-I_{EBO}$	-	0.1	$\mu\text{A}$	
Collector Saturation Voltage at $-I_C=50\text{mA}$ , $-I_B=5\text{mA}$	$-V_{CE(sat)}$	-	0.5	V	
Collector Base Breakdown Voltage at $-I_C=50\mu\text{A}$	$-V_{(BR)CBO}$	60	-	V	
Collector Emitter Breakdown Voltage at $-I_C=1\text{mA}$	$-V_{(BR)CEO}$	50	-	V	
Emitter Base Breakdown Voltage at $-I_E=50\mu\text{A}$	$-V_{(BR)EBO}$	6	-	V	
Transition Frequency at $-V_{CE}=12\text{V}$ , $-I_C=2\text{mA}$ , $f=30\text{MHz}$	$f_T$	120	-	MHz	

 **$h_{FE}$  Classification**

Classification	Q	R	S
Range	120-270	180-390	270-560
Marking	FQ	FR	FS

**Package Outline SOT-23**

Plastic surface mounted package; 3 leads



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
bp	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A1	0.100	0.013
Lp	0.20	0.50

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1

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