

Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

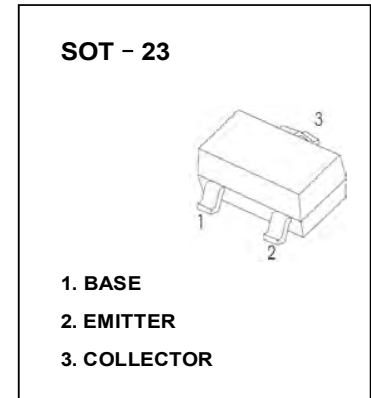
FEATURES

- High Voltage Application
- Telephone Application
- Complementary to MMBTA43

MARKING: 2D

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-200	V
V_{CEO}	Collector-Emitter Voltage	-200	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_{C}	Collector Current	-500	mA
P_{C}	Collector Power Dissipation	350	mW
$R_{\theta\text{JA}}$	Thermal Resistance From Junction To Ambient	357	$^{\circ}\text{C}/\text{W}$
T_{j}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-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	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}}=-100\mu\text{A}, I_{\text{E}}=0$	-200			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}}=-1\text{mA}, I_{\text{B}}=0$	-200			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}}=-100\mu\text{A}, I_{\text{C}}=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=-200\text{V}, I_{\text{E}}=0$			-0.25	μA
Collector cut-off current	I_{CEO}	$V_{\text{CE}}=-200\text{V}, I_{\text{B}}=0$			-0.25	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=-5\text{V}, I_{\text{C}}=0$			-0.1	μA
DC current gain	$h_{\text{FE}(1)}^*$	$V_{\text{CE}}=-10\text{V}, I_{\text{C}}=-10\text{mA}$	40			
	$h_{\text{FE}(2)}^*$	$V_{\text{CE}}=-10\text{V}, I_{\text{C}}=-1\text{mA}$	25			
	$h_{\text{FE}(3)}^*$	$V_{\text{CE}}=-10\text{V}, I_{\text{C}}=-30\text{mA}$	25			
Collector-emitter saturation voltage	$V_{\text{CE}(\text{sat})}^*$	$I_{\text{C}}=-20\text{mA}, I_{\text{B}}=-2\text{mA}$			-0.5	V
Base-emitter saturation voltage	$V_{\text{BE}(\text{sat})}^*$	$I_{\text{C}}=-20\text{mA}, I_{\text{B}}=-2\text{mA}$			-0.9	V
Transition frequency	f_{T}	$V_{\text{CE}}=-20\text{V}, I_{\text{C}}=-10\text{mA}, f=100\text{MHz}$	50			MHz
Collector output capacitance	C_{ob}	$V_{\text{CB}}=-20\text{V}, I_{\text{E}}=0, f=1\text{MHz}$			8	pF

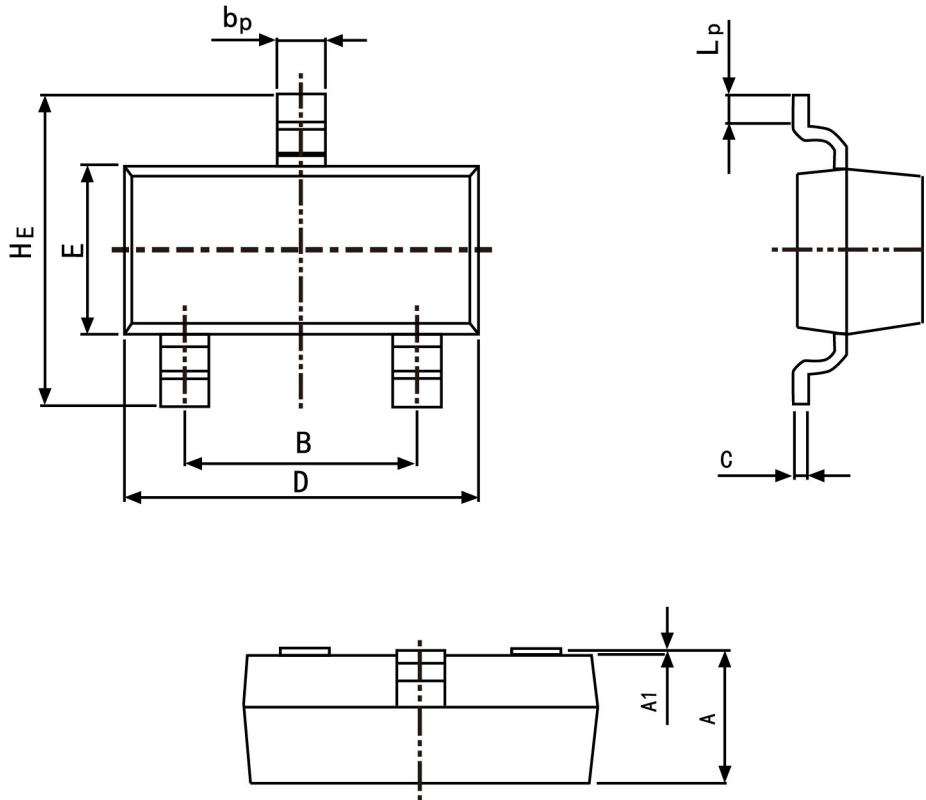
*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2.0\%$.



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
b_p	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
L_p	0.20	0.50