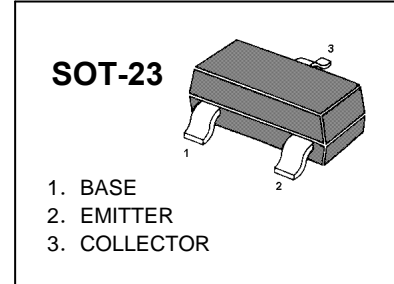


## TRANSISTOR (NPN)

### FEATURES

- VHF/UHF Transistor

**MARKING: 3EM**



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

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	25	V
$V_{EBO}$	Emitter-Base Voltage	3	V
$I_C$	Collector Current	50	mA
$P_C$	Collector Power Dissipation	225	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	556	$^\circ\text{C}/\text{W}$
$T_j$	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	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$ , $I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$ , $I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$ , $I_C=0$	3			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=25\text{V}$ , $I_E=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=2\text{V}$ , $I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=10\text{V}$ , $I_C=4\text{mA}$	60			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=4\text{mA}$ , $I_B=0.4\text{mA}$			0.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=10\text{V}$ , $I_C=4\text{mA}$			0.95	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}$ , $I_C=4\text{mA}$ $f=100\text{MHz}$	650			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$			0.7	pF



**CHINA BASE**  
INTERNATIONAL

**SOT-23**

**MMBTH10**

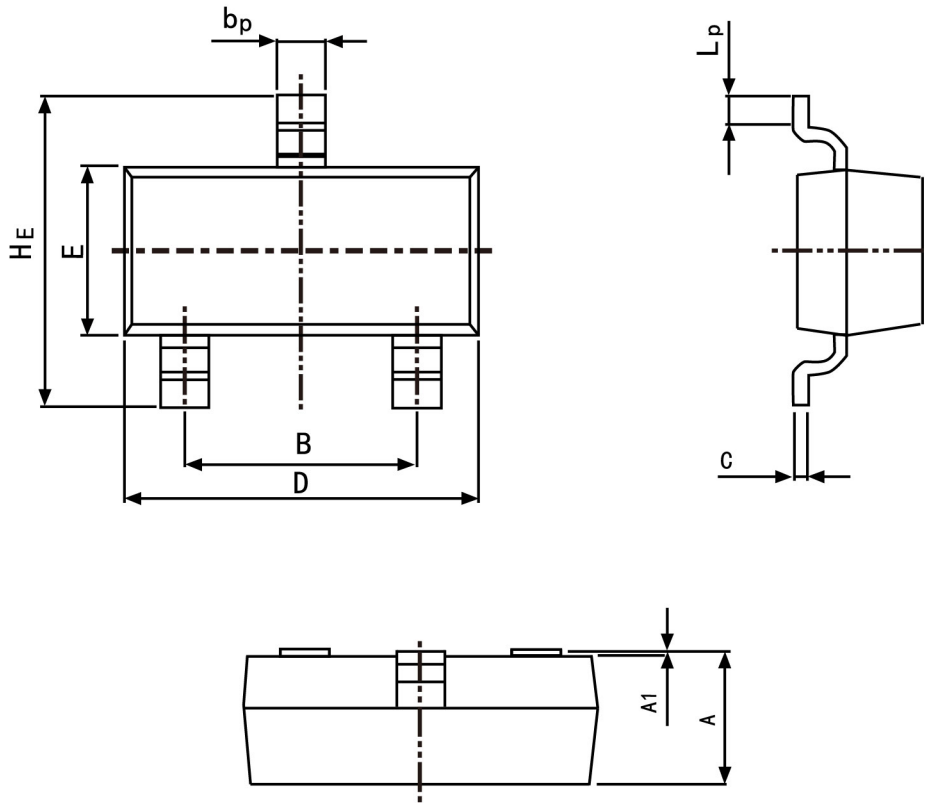


www.china-base.com.hk

**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