

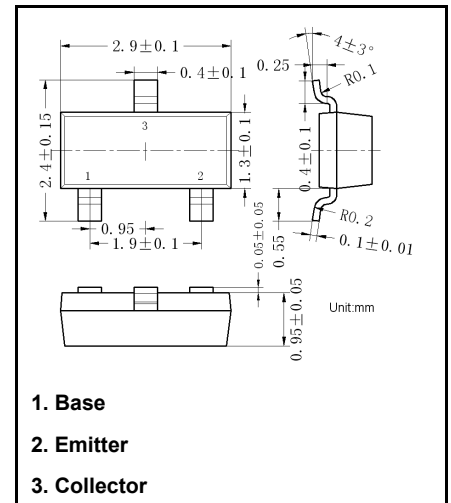
SOT-23 Plastic-Encapsulate Transistors

MMBTA94 PNP Transistors

Features

- High Breakdown Voltage

Marking: 4D



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector Base Voltage	-400	V
V_{CEO}	Collector Emitter Voltage	-400	V
V_{EBO}	Emitter Base Voltage	-5	V
I_C	Collector Current - Continuous	-200	mA
I_{CM}	Collector Current - Pulsed	-300	mA
P_C	Collector Power Dissipation	350	mW
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55 ~ +150	$^{\circ}\text{C}$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	357	$^{\circ}\text{C/W}$

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

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -100\mu\text{A}$, $I_E = 0$	-400			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = -1\text{mA}$, $I_B = 0$	-400			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -100\mu\text{A}$, $I_C = 0$	-5			V
I_{CBO}	Collector cut-off current	$V_{CB} = -400\text{V}$, $I_E = 0$			-0.1	μA
I_{CEO}	Collector cut-off current	$V_{CE} = -400\text{V}$, $I_B = 0$			-5	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = -4\text{V}$, $I_C = 0$			-0.1	μA
$h_{FE(1)}$	DC current gain	$V_{CE} = -10\text{V}$, $I_C = -1\text{mA}$	70			
$h_{FE(2)}$		$V_{CE} = -10\text{V}$, $I_C = -10\text{mA}$	100		250	
$h_{FE(3)}$		$V_{CE} = -10\text{V}$, $I_C = -100\text{mA}$	40			
$h_{FE(4)}$		$V_{CE} = -10\text{V}$, $I_C = -500\text{mA}$	40			
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = -10\text{mA}$, $I_B = -1\text{mA}$			-0.2	V
		$I_C = -50\text{mA}$, $I_B = -5\text{mA}$			-0.3	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C = -10\text{mA}$, $I_B = -1\text{mA}$			-0.75	V
f_T	Transition frequency	$V_{CE} = -20\text{V}$, $I_C = -10\text{mA}$, $f = 30\text{MHz}$	50			MHz

Typical Characteristics

