

# MBTA94

PNP EPITAXIAL PLANAR TRANSISTOR

We declare that the material of product compliance with RoHS requirements.

## Description

The MBTA94 is designed for application that requires high voltage.

## Features

- High Breakdown Voltage:  $V_{CEO}=400(\text{Min.})$  at  $I_C=1\text{mA}$
- Complementary to MBTA94
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

## DEVICE MARKING

(S-)MBTA94 = 4Z

## Absolute Maximum Ratings

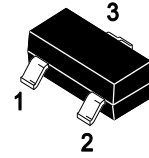
- Maximum Temperatures  
Storage Temperature ..... -55 ~ +150 °C  
Junction Temperature ..... +150 °C Maximum
- Maximum Power Dissipation  
Total Power Dissipation ( $T_a=25^\circ\text{C}$ ) ..... 350 mW
- Maximum Voltages and Currents ( $T_a=25^\circ\text{C}$ )  
VCBO Collector to Base Voltage ..... -400 V  
VCEO Collector to Emitter Voltage ..... -400 V  
VEBO Emitter to Base Voltage ..... -6 V  
IC Collector Current ..... -150 mA

## Characteristics (Ta=25 C)

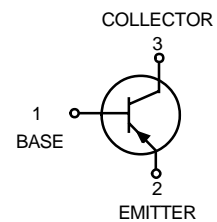
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	-400	-	-	V	$I_C=-100\mu\text{A}$ , $I_E=0$
BVCEO	-400	-	-	V	$I_C=-1\text{mA}$ , $I_B=0$
BVEBO	-6	-	-	V	$I_E=-10\mu\text{A}$ , $I_C=0$
ICBO	-	-	-100	nA	$V_{CB}=-400\text{V}$ , $I_E=0$
IEBO	-	-	-100	nA	$V_{EB}=-6\text{V}$ , $I_C=0$
ICES	-	-	-500	nA	$V_{CE}=-400\text{V}$ , $V_{BE}=0$
*VCE(sat)1	-	-	-200	mV	$I_C=-1\text{mA}$ , $I_B=-0.1\text{mA}$
*VCE(sat)2	-	-	-300	mV	$I_C=-10\text{mA}$ , $I_B=-1\text{mA}$
*VCE(sat)3	-	-	-600	mV	$I_C=-50\text{mA}$ , $I_B=-5\text{mA}$
*VBE(sat)	-	-	-900	mV	$I_C=-10\text{mA}$ , $I_B=-1\text{mA}$
*hFE1	50	-	-		$V_{CE}=-10\text{V}$ , $I_C=-1\text{mA}$
*hFE2	75	-	200		$V_{CE}=-10\text{V}$ , $I_C=-10\text{mA}$
*hFE3	60	-	-		$V_{CE}=-10\text{V}$ , $I_C=-50\text{mA}$
*hFE4	20	-	-		$V_{CE}=-10\text{V}$ , $I_C=-100\text{mA}$
Cob	-	4	6	pF	$V_{CE}=-10\text{V}$ , $f=1\text{MHz}$

\*Pulse Test: Pulse Width  $\leq 380\mu\text{s}$ , Duty Cycle  $\leq 2\%$

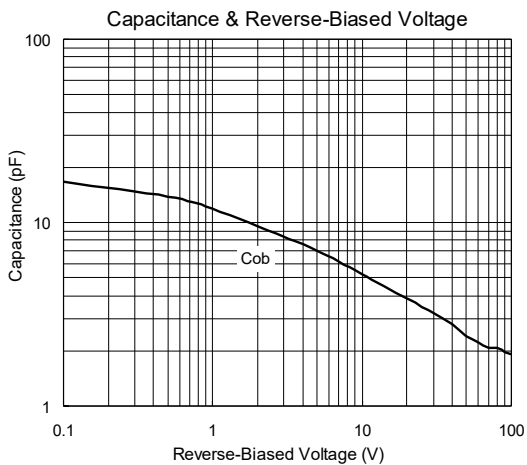
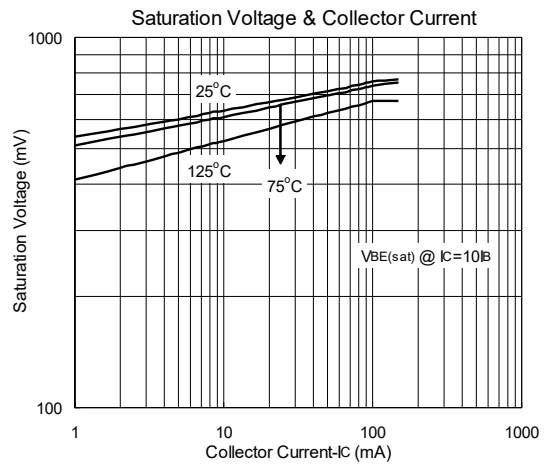
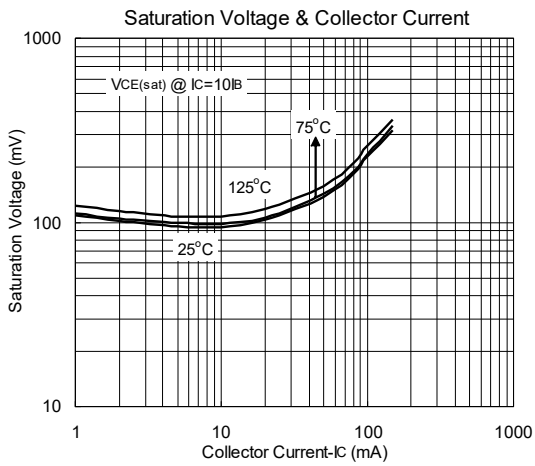
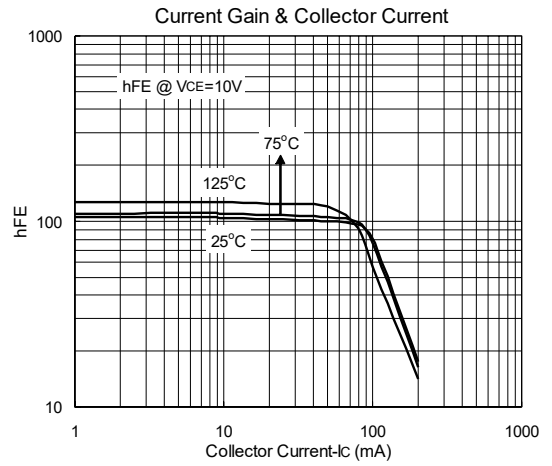
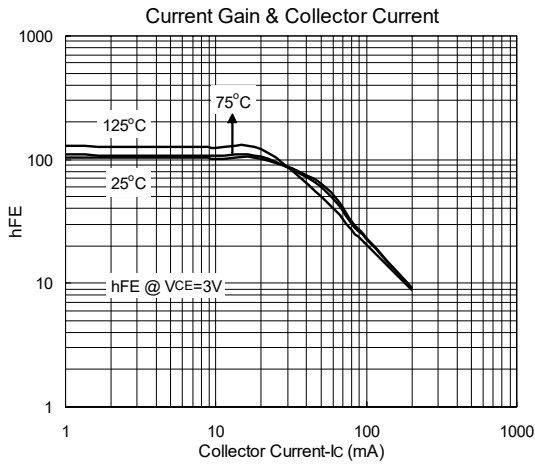
# MBTA94 S-MBTA94



SOT23



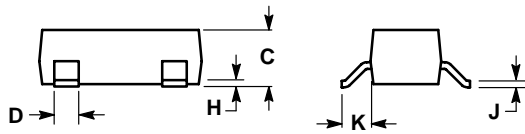
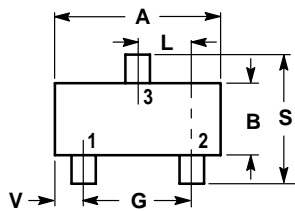
## Characteristics Curve



### SOT-23

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

- PIN 1. BASE
- 2. EMITTER
- 3. COLLECTOR

