

MBTA44

NPN EPITAXIAL PLANAR TRANSISTOR

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

Description

The MBTA44 is designed for application that requires high voltage.

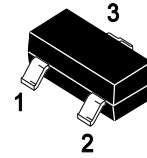
Features

- High Breakdown Voltage: $V_{CE0}=400(\text{Min.})$ 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.

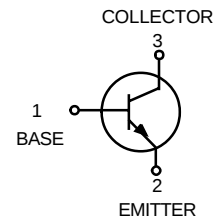
DEVICE MARKING

MBTA44 = 3D S-MBTA44 = 3D

MBTA44 S-MBTA44



SOT23



Absolute Maximum Ratings

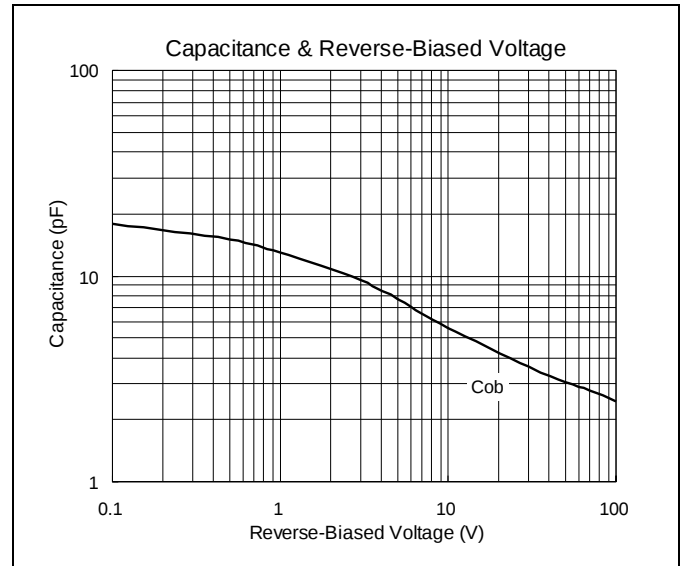
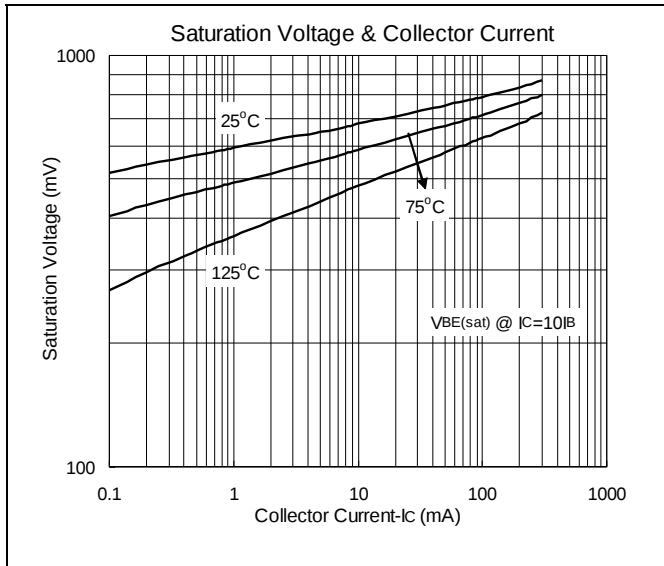
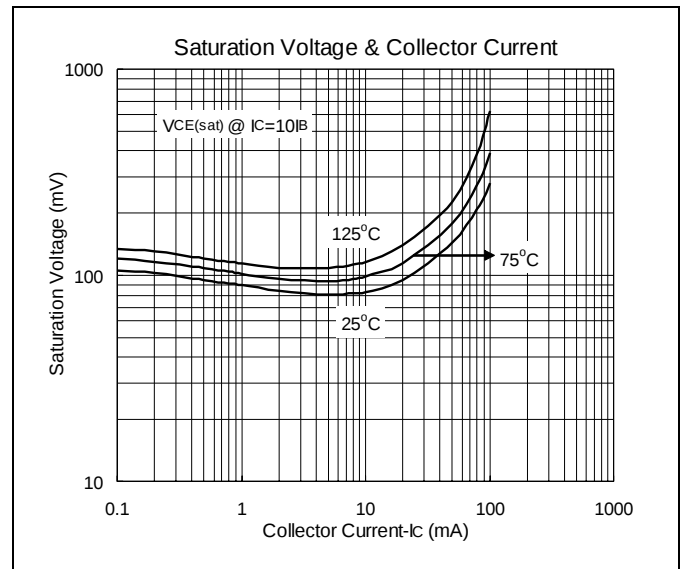
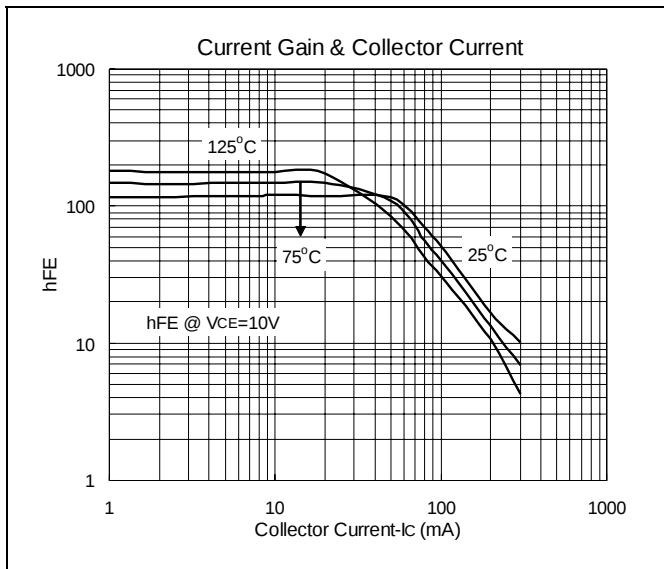
- Maximum Temperatures
Storage Temperature -55 ~ +150 °C
Junction Temperature +150 °C Maximum
- Maximum Power Dissipation
Total Power Dissipation ($T_a=25^\circ\text{C}$) 350 mW
- Maximum Voltages and Currents ($T_a=25^\circ\text{C}$)
VCBO Collector to Base Voltage 400 V
VCEO Collector to Emitter Voltage 400 V
VEBO Emitter to Base Voltage 5 V
IC Collector Current 200 mA

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=400\text{V}, I_E=0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=350\text{V}$			5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC current gain	$H_{FE(1)}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	80		300	
	$H_{FE(2)}$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	50			
	$H_{FE(3)}$	$V_{CE}=10\text{V}, I_C=50\text{mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.2	V
	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.9	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=20\text{mA}$	50			MHz



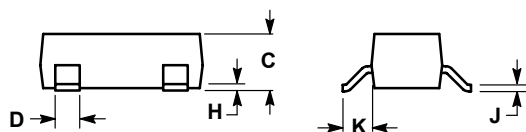
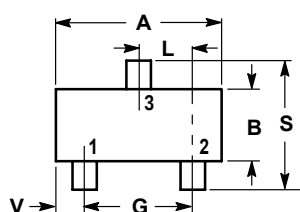
Characteristics Curve



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

