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Part Number	MMBT3906
product family	SOT-23 Plastic-Encapsulate Bipolar Transistors
Product Polarity	PNP
SMD/ThroHole	SMD
VCEO	40V
VCBO	40V
VEBO	5.0V
Ic	200mA
PC	350mW
HFE(min)	100
@Ic	10mA
@VCE	1.0V
ICBO	
IEBO	
VCE(sat)	0.25V
VBE(sat)	0.85V
ft	250MHz
nf	
TON_max	
Package Qty	Tape: 3K/Reel , 120K/Ctn;

**Green/Pb Free/RoHS/REACH**

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Micro Commercial Components

# MMBT3906

## Features

- Capable of 300mWatts of Power Dissipation
- Surface Mount SOT-23 Package
- Marking:2A
- Case Material:Molded Plastic. UL Flammability Classificatio Rating 94-0 and MSL Rating 1

## PNP General Purpose Amplifier

## Maximum Ratings

Symbol	Rating	Rating	Unit
$V_{CEO}$	Collector-Emitter Voltage	-40	V
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{EBO}$	Emitter-Base Voltage	-5.0	V
$I_C$	Collector Current, Continuous	-0.2	A
$P_D$	Power Dissipation	0.3	W
$T_J$	Operating Junction Temperature	-55 to +150	$^{\circ}C$
$T_{STG}$	Storage Temperature	-55 to +150	$^{\circ}C$

## Electrical Characteristics @ 25°C Unless Otherwise Specified

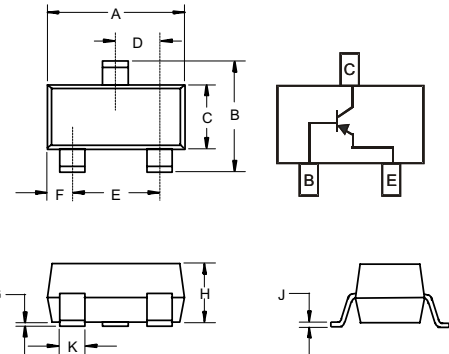
Symbol	Parameter	Min	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ( $I_C=-1.0mA$ , $I_B=0$ )	-40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=-10\mu A$ , $I_E=0$ )	-40		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=-10\mu A$ , $I_C=0$ )	-5.0		Vdc
$I_{CBO}$	Collector cut-off Current ( $V_{CB}=-40V$ , $I_E=0$ )		-0.1	$\mu A$
$I_{CEX}$	Collector Cut-off Current ( $V_{CE}=-30V$ , $V_{BE}=-3.0V$ )		-50	nA
$I_{EBO}$	Emitter cut-off Current ( $V_{EB}=-5V$ , $I_C=0$ )		-0.1	$\mu A$
$h_{FE}$	DC Current Gain* ( $I_C=-10mA$ , $V_{CE}=-1.0V$ ) ( $I_C=-50mA$ , $V_{CE}=-1.0V$ ) ( $I_C=-100mA$ , $V_{CE}=-1.0V$ )	100 60 30	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=-10mA$ , $I_B=-1.0mA$ ) ( $I_C=-50mA$ , $I_B=-5.0mA$ )		-0.25 -0.4	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=-10mA$ , $I_B=-1.0mA$ ) ( $I_C=-50mA$ , $I_B=-5.0mA$ )	-0.65	-0.85 -0.95	Vdc
$f_T$	Current Gain-Bandwidth Product ( $I_C=-10mA$ , $V_{CE}=-20V$ , $f=100MHz$ )	250		MHz

## SWITCHING CHARACTERISTICS

$t_d$	Delay Time	( $V_{CC}=-3.0V$ , $V_{BE}=-0.5V$ )	35	ns
$t_r$	Rise Time	$I_C=-10mA$ , $I_{B1}=-1.0mA$	35	ns
$t_s$	Storage Time	( $V_{CC}=-3.0V$ , $I_C=-10mA$ )	225	ns
$t_f$	Fall Time	$I_{B1}=I_{B2}=-1.0mA$	75	ns

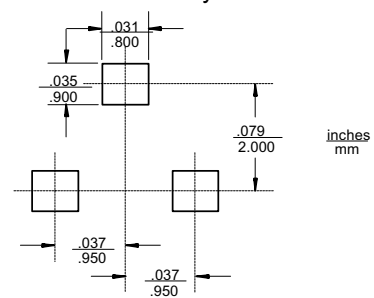
\*Pulse Width  $\leq 300\mu s$ , Duty Cycle  $\leq 2.0\%$

## SOT-23



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

## Suggested Solder Pad Layout





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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel