

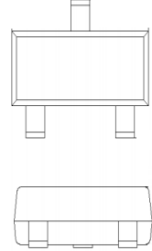
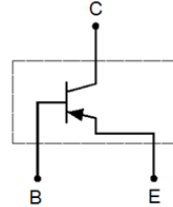
## PNP Transistor

- ◇ Complementary NPN Type Available (MMBT3904)
- ◇ Epoxy Meets UL 94 V-0 Flammability Rating
- ◇ Surface Mount SOT-23 Package
- ◇ Rohs Compliant / Green EMC

Device Marking Code	
MMBT3906	2A

SOT23

Equivalent Circuit



### Maximum Ratings (Ta=25°C Unless Otherwise Noted)

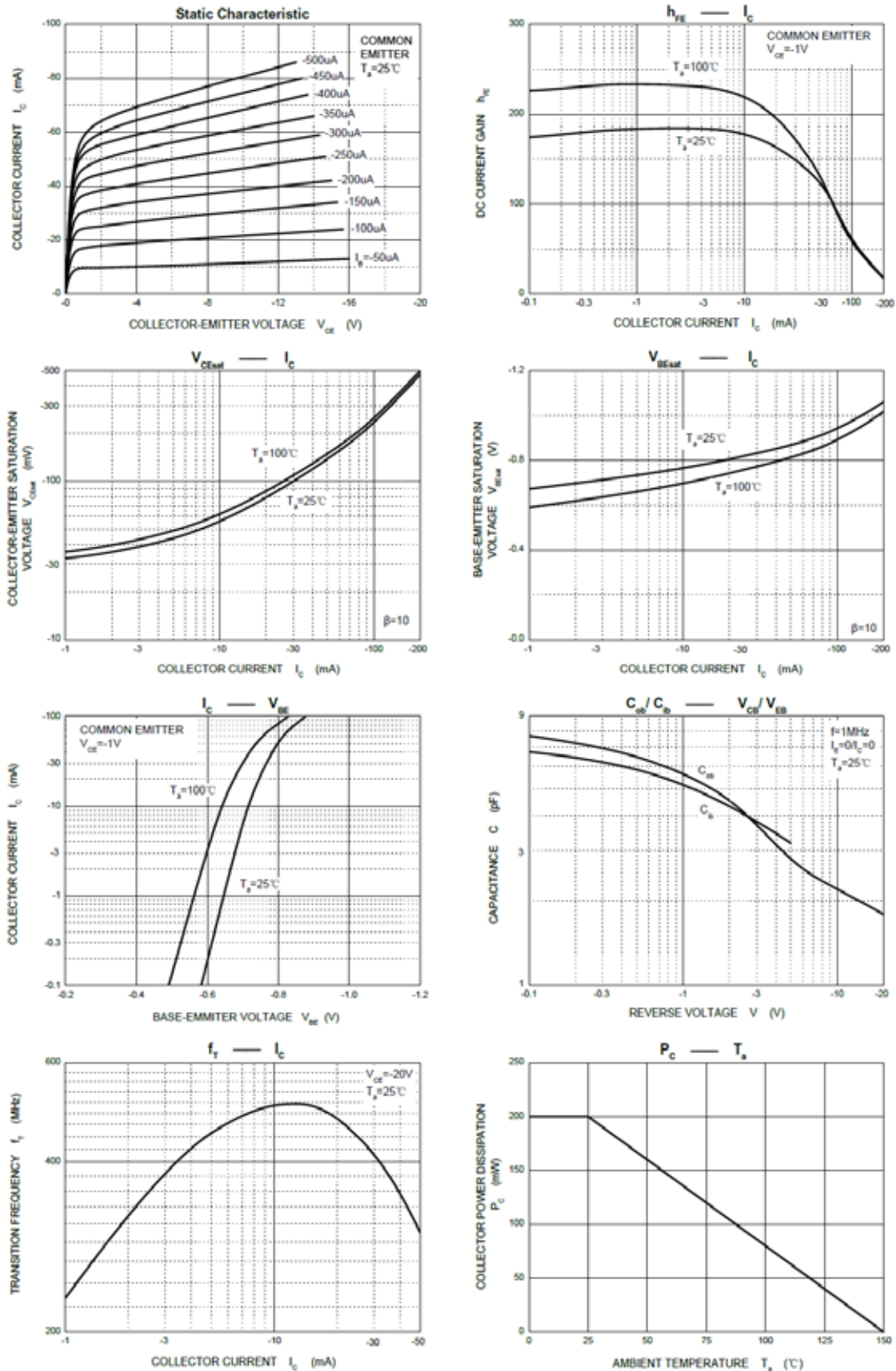
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-40	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current	-200	mA
$P_C$	Collector Power Dissipation*	200	mW
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-55~+150	°C

\* Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

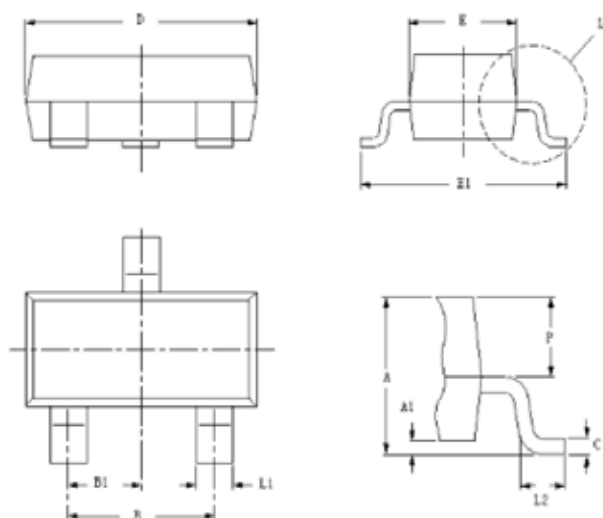
### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1.0mA, I_B = 0$	-40		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -10\mu A, I_E = 0$	-40		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -10\mu A, I_C = 0$	-5.0		V
$I_{CBO}$	Collector-Base Cutoff Current	$V_{CB} = -40V, I_E = 0$		-100	nA
$I_{CEX}$	Collector Cutoff Current	$V_{CE} = -30V, V_{BE} = -3.0V$		-50	nA
$I_{EBO}$	Emitter-Base Cutoff Current	$V_{EB} = -5V, I_C = 0$		-100	nA
$h_{FE}$	DC Current Gain	$I_C = -10mA, V_{CE} = -1.0V$	100	300	
		$I_C = -50mA, V_{CE} = -1.0V$	60		
		$I_C = -100mA, V_{CE} = -1.0V$	30		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -10mA, I_B = -1.0mA$		-0.25	V
		$I_C = -50mA, I_B = -5.0mA$		-0.4	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -10mA, I_B = -1.0mA$	-0.65	-0.85	V
		$I_C = -50mA, I_B = -5.0mA$		-0.95	
$f_T$	Transition Frequency	$I_C = -10mA, V_{CE} = -20V, f = 100MHz$	250		MHZ
td	Delay Time	$V_{CC} = -3.0V, V_{BE} = -0.5V$		35	ns
tr	Rise Time	$I_C = -10mA, I_{B1} = I_{B2} = -1.0mA$		35	ns
ts	Storage Time	$V_{CC} = -3.0V, I_C = -10mA$		225	ns
tf	Fall Time	$I_{B1} = I_{B2} = -1.0mA$		75	ns

## RATING AND CHARACTERISTICS CURVES ( MMBT3906)



## SOT-23 Package Outline Dimensions

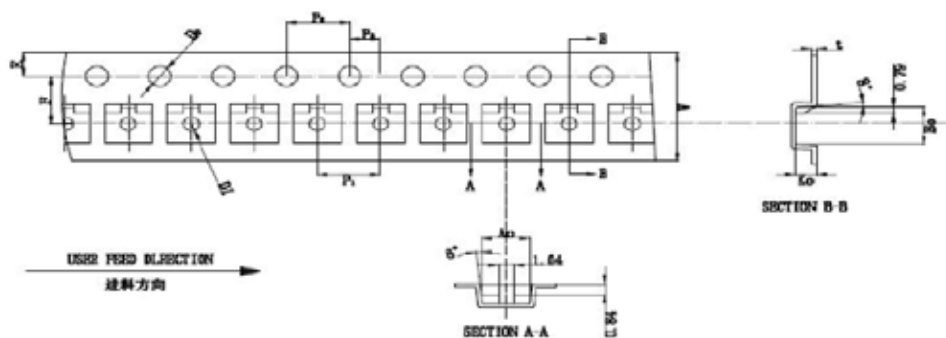


Symbol	Dim in mm	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
L1	0.350	0.500
C	0.090	0.150
D	2.800	3.000
E	1.250	1.350
E1	2.250	2.550
B	1.800	2.000
B1	0.950 TYP	
L2	0.200	0.450
P	0.550	0.600

Mold Surface roughness: < 4um

## SOT-23 Tape and Reel

PKG TYPE	W	P	E	F	D	D1	Po	Po10	P2	A0	B0	K0	T
SOT-23	8.00	4.00	1.75	3.50	1.50	1.00	4.00	40.00	2.00	3.15	2.77	1.22	0.20
Tolerance	+0.3/-0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.2	±0.05	±0.1	±0.1	±0.1	±0.02



# PACKAGING OF DIODE

REEL PACK

PACKAGE	PACKING CODE	REEL ( EA )	COMPONENT SPACE(mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOT-23/-3L	-T	3,000	---	---	178	390*205*310	120,000	---

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