

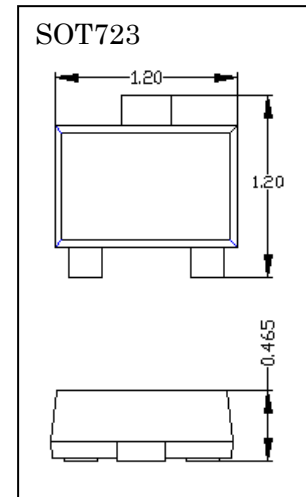
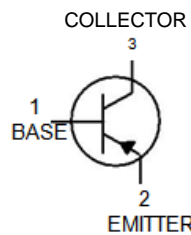
## DATA SHEET

### MMBT3906M

- ◇ Capable of 100 mWatts of Power Dissipation and 200mA Ic
- ◇ Operating and Storage Junction Temperatures: -55°C to 150°C
- ◇ Small Outline Surface Mount Package
- ◇ RoHS compliant / Green EMC

Device Marking Code	
MMBT3906M	3N

Circuit Diagram



### MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

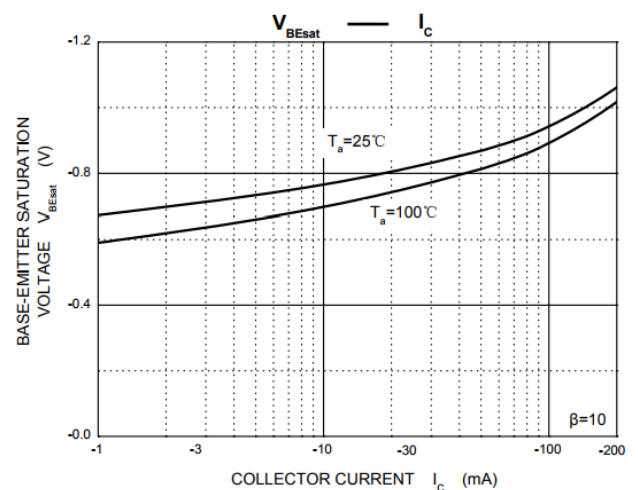
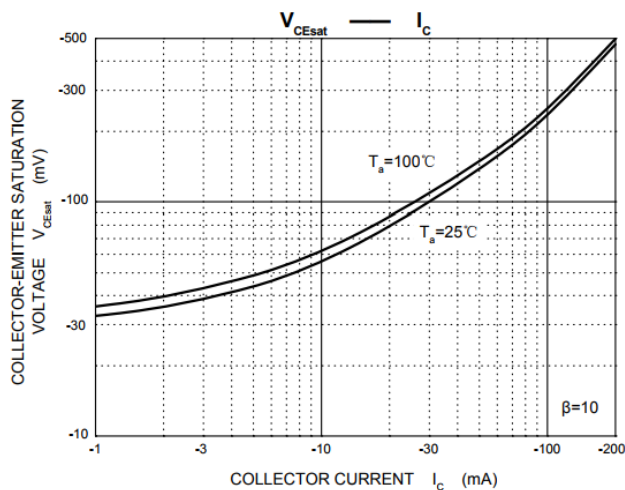
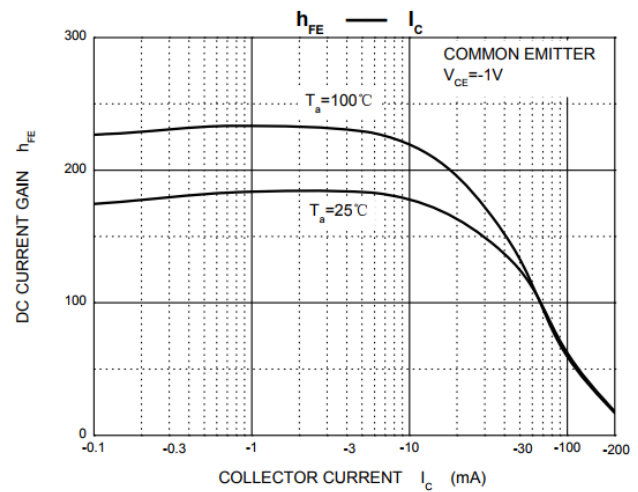
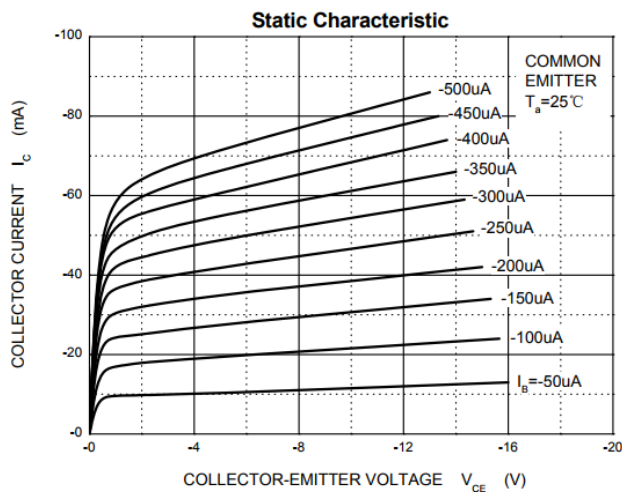
Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	-40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-40	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>c</sub>	Collector Current -Continuous	-0.2	A
P <sub>c</sub>	Collector Power Dissipation	100	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	1250	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

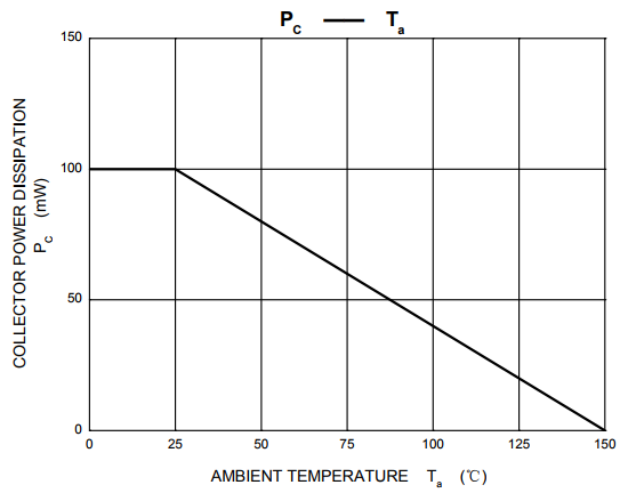
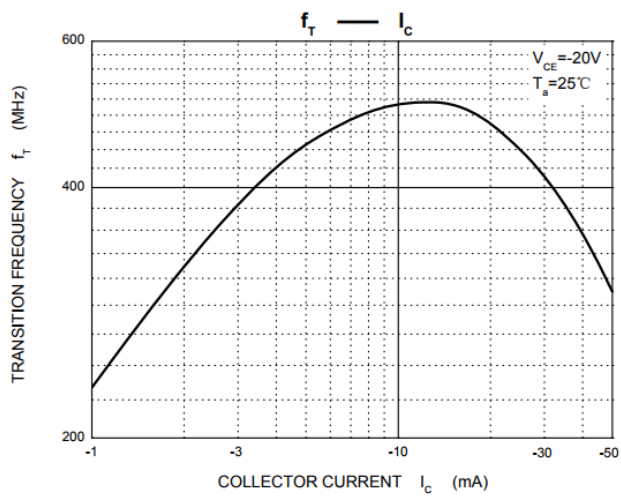
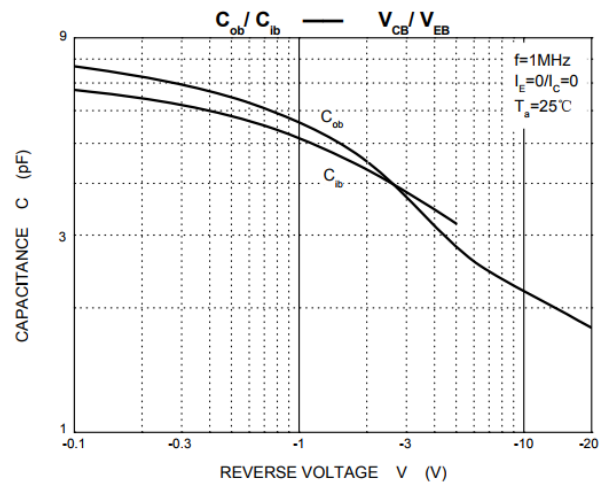
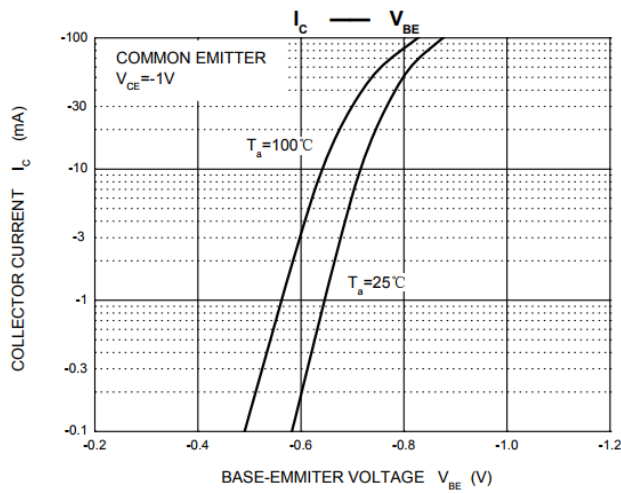
### ELECTRICAL CHARACTERISTICS @ 25° C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Max	Units
V <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>c</sub> = -1.0mA, I <sub>B</sub> = 0	-40		V
V <sub>CB0</sub>	Collector-Base Breakdown Voltage	I <sub>c</sub> = -10μA, I <sub>E</sub> = 0	-40		V
V <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -10μA, I <sub>c</sub> = 0	-5		V
I <sub>CB0</sub>	Collector Cut-off Current	V <sub>CB</sub> = -40V, I <sub>E</sub> = 0		-100	nA

$I_{CEX}$	Collector Cut-off Current	$V_{CE}=-30V, V_{EB(OFF)}=-3.0V$		-50	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=-5V, I_C=0$		-100	nA
$h_{FE(1)}$	DC Current Gain	$I_C=-10mA, V_{CE}=-1V$	100	300	
$h_{FE(2)}$	DC Current Gain	$I_C=-50mA, V_{CE}=-1V$	60		
$h_{FE(3)}$	DC Current Gain	$I_C=-100mA, V_{CE}=-2V$	30		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=-50mA, I_B=-5mA$		-0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=-50mA, I_B=-5mA$		-0.95	V
$f_T$	Current Gain-Band width Product	$I_C=-10mA, V_{CE}=-20V, f=100MHz$	300		MHz
$t_d$	Delay Time	$V_{CC}=-3.0V, V_{BE(OFF)}=-0.5V$		35	ns
$t_r$	Rise Time	$I_C=-10mA, I_{B1}=I_{B2}=-1.0mA$		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

TYPICAL CHARACTERISTICS

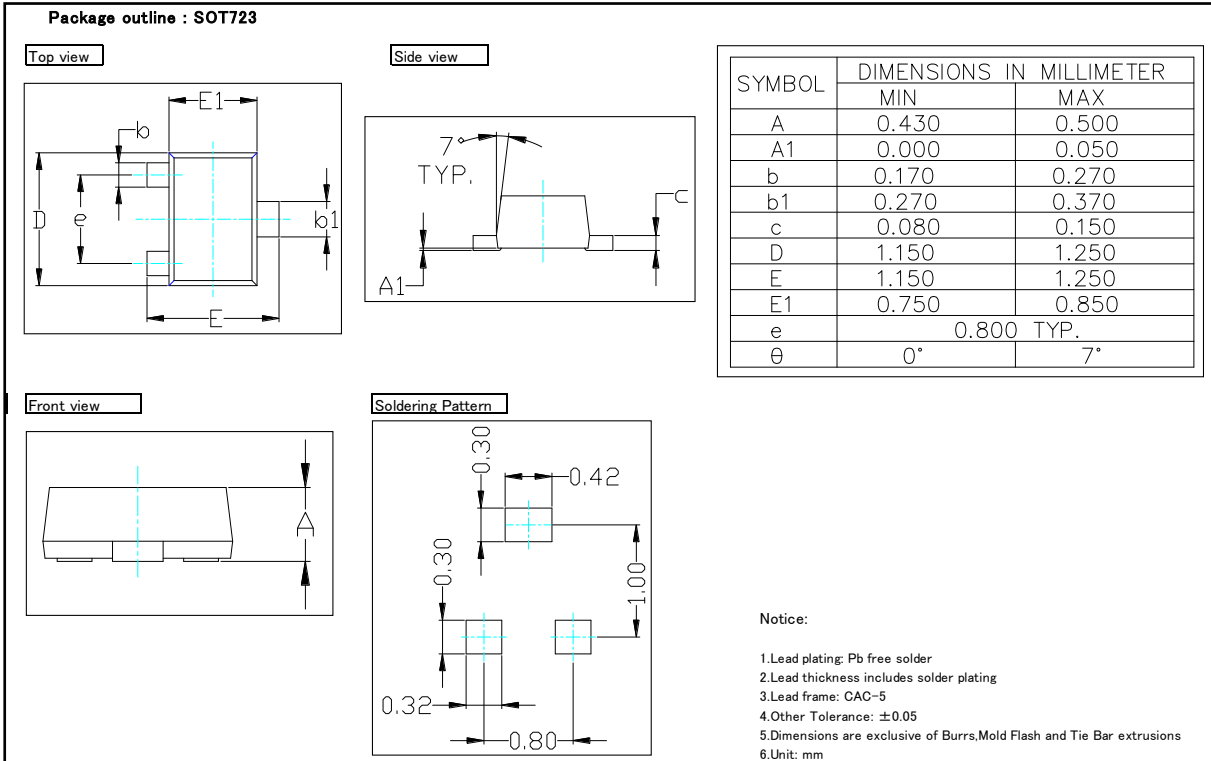




### ORDERING INFORMATION

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
MMBT3906M	SOT723	Tape & Reel 8000pcs /7" Reel	8mm	4mm	Conductive	

PACKAGE DIMENSIONS



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