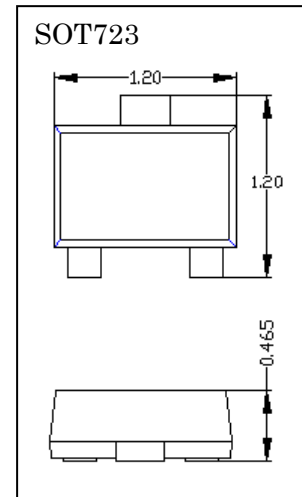
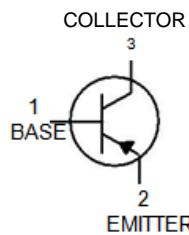


- ◇ Capable of 100 mWatts of Power Dissipation and 200mA  $I_c$
- ◇ Operating and Storage Junction Temperatures:  $-55^{\circ}\text{C}$  to  $150^{\circ}\text{C}$
- ◇ Small Outline Surface Mount Package
- ◇ RoHS compliant / Green EMC

Device Marking Code	
MMBT3906SL	3N

Circuit Diagram



**MAXIMUM RATINGS** ( $T_a=25^{\circ}\text{C}$  unless otherwise noted)

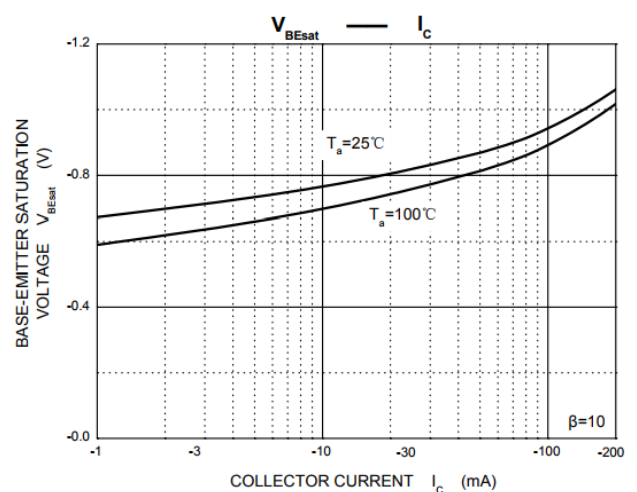
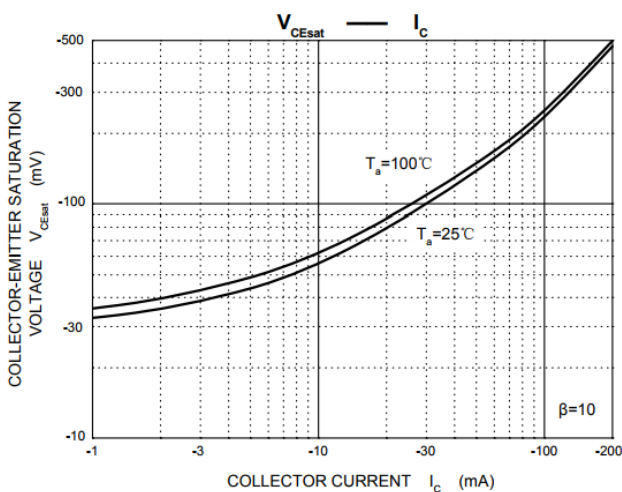
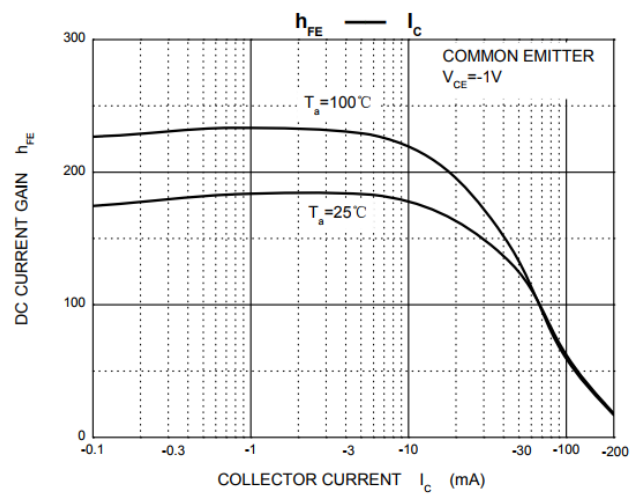
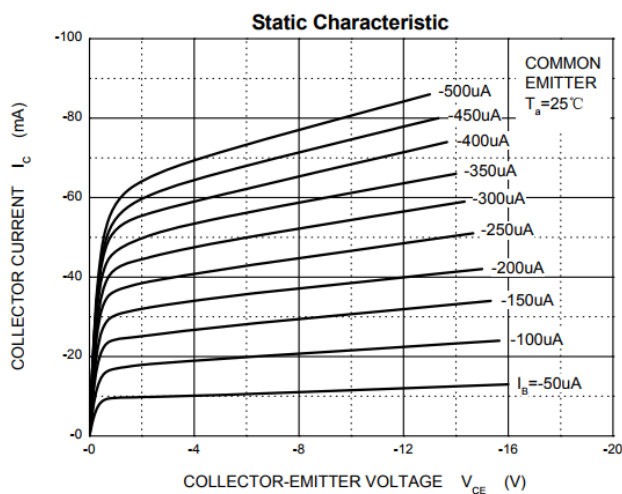
Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	-40	V
$V_{CE0}$	Collector-Emitter Voltage	-40	V
$V_{EB0}$	Emitter-Base Voltage	-5	V
$I_c$	Collector Current -Continuous	-0.2	A
$P_c$	Collector Power Dissipation	100	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	1250	$^{\circ}\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	$-55 \sim +150$	$^{\circ}\text{C}$

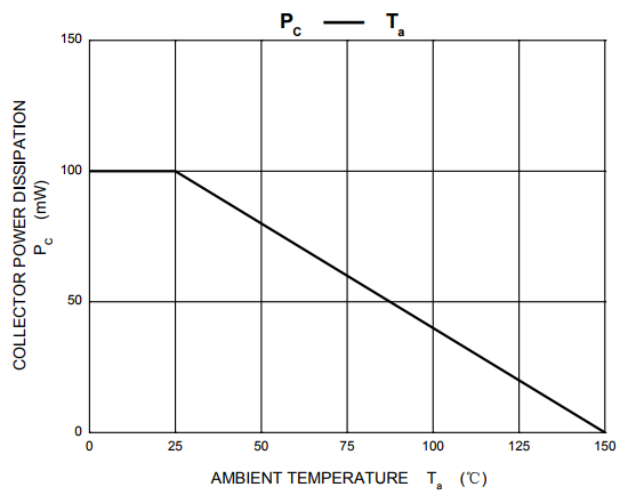
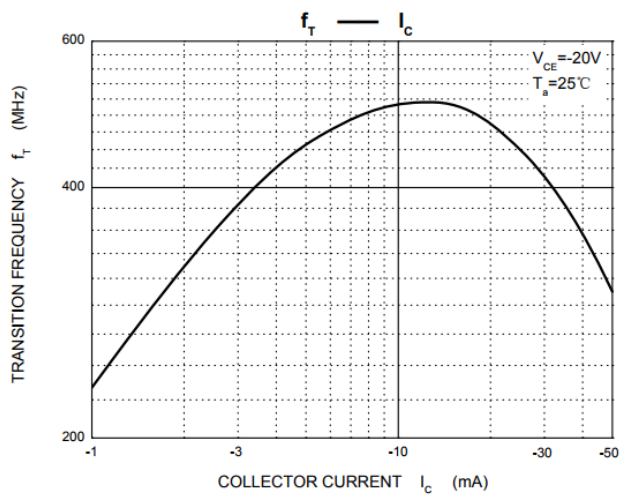
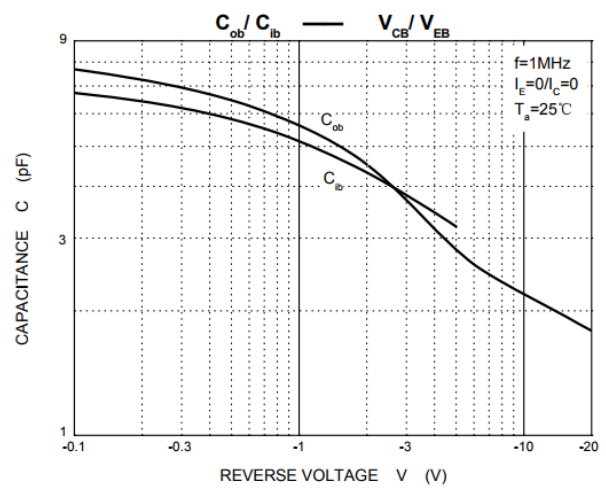
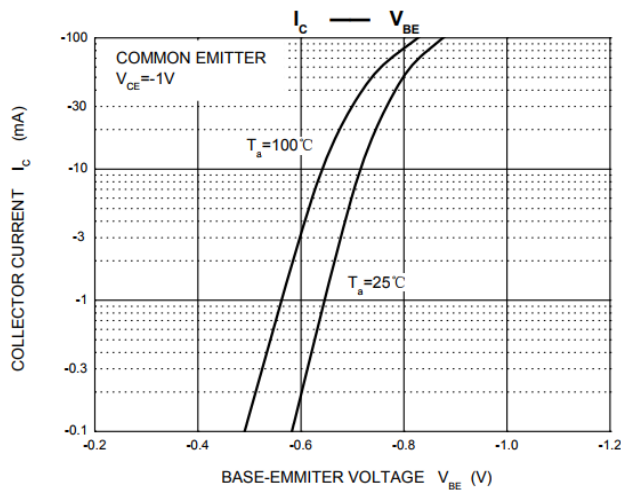
**ELECTRICAL CHARACTERISTICS @  $25^{\circ}\text{C}$  Unless Otherwise Specified**

Symbol	Parameter	Test Conditions	Min	Max	Units
$V_{CE0}$	Collector-Emitter Breakdown Voltage	$I_c = -1.0\text{mA}$ , $I_B = 0$	-40		V
$V_{CB0}$	Collector-Base Breakdown Voltage	$I_c = -10\mu\text{A}$ , $I_E = 0$	-40		V
$V_{EB0}$	Emitter-Base Breakdown Voltage	$I_E = -10\mu\text{A}$ , $I_c = 0$	-5		V
$I_{CB0}$	Collector Cut-off Current	$V_{CB} = -40\text{V}$ , $I_E = 0$		-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**





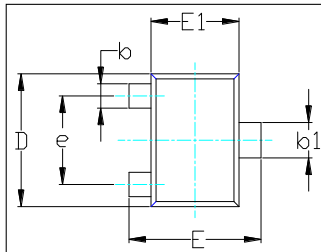
ORDERING INFORMATION

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

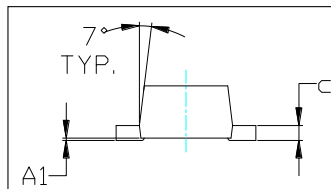
**PACKAGE DIMENSIONS**

Package outline : SOT723

Top view

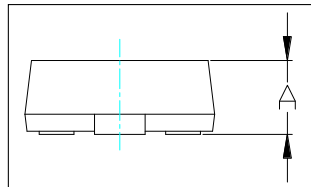


Side view

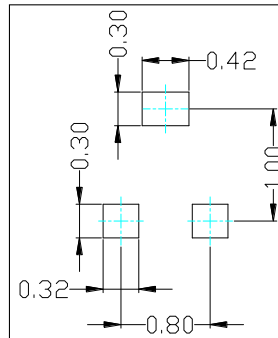


SYMBOL	DIMENSIONS IN MILLIMETER	
	MIN	MAX
A	0.430	0.500
A1	0.000	0.050
b	0.170	0.270
b1	0.270	0.370
c	0.080	0.150
D	1.150	1.250
E	1.150	1.250
E1	0.750	0.850
e	0.800 TYP.	
$\theta$	0°	7°

Front view



Soldering Pattern



Notice:

1. Lead plating: Pb free solder
2. Lead thickness includes solder plating
3. Lead frame: CAC-5
4. Other Tolerance:  $\pm 0.05$
5. Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions
6. Unit: mm

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