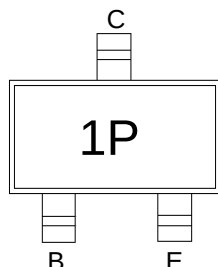


Features

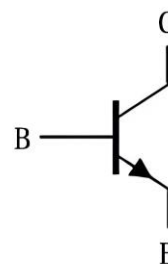
- Epitaxial planar die construction



Marking and pin assignment



SOT-723 top view



Schematic diagram



Halogen-Free

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

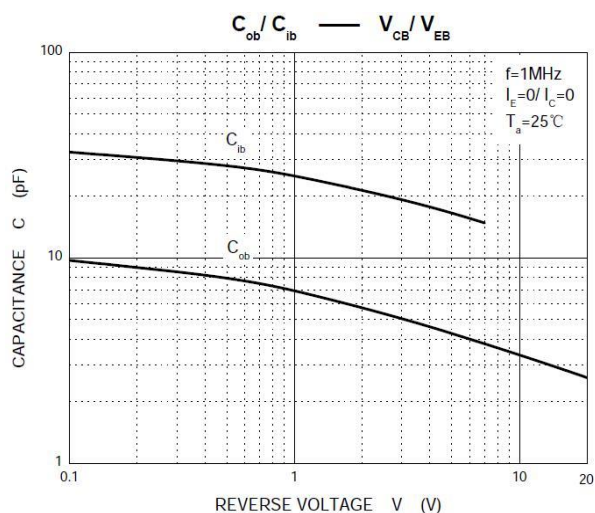
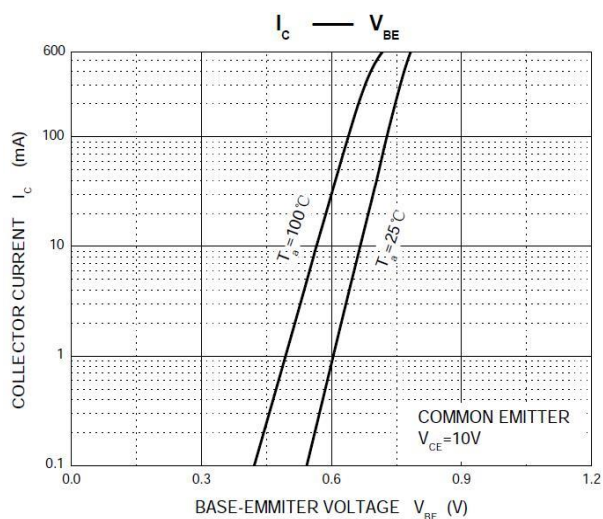
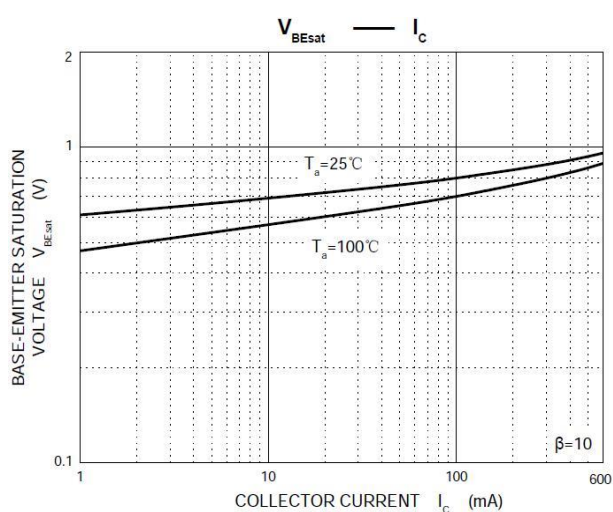
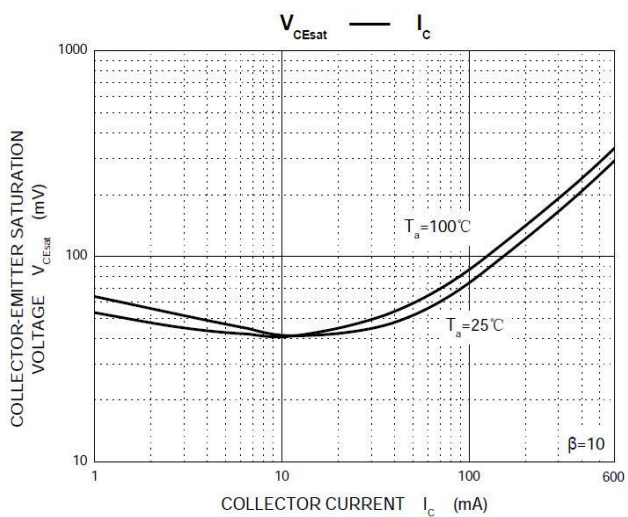
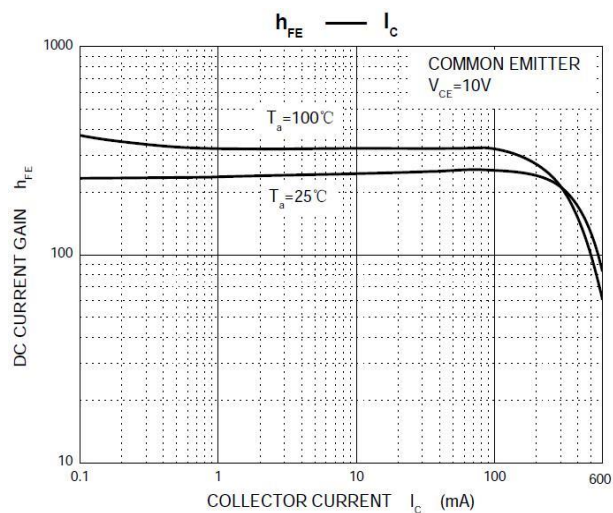
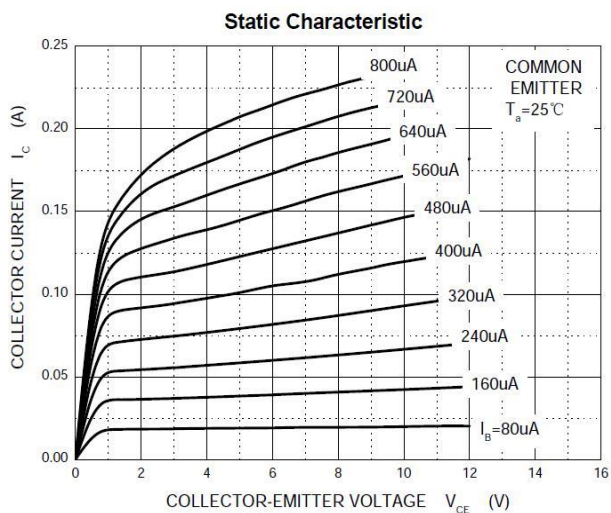
Symbol	Parameter	Limit	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous 0.5 A	0.5	A
P_C	Power Dissipation	100	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	1250	°C/W
T_J, T_{STG}	Operation Junction and Storage Temperature Range	-55~+150	°C

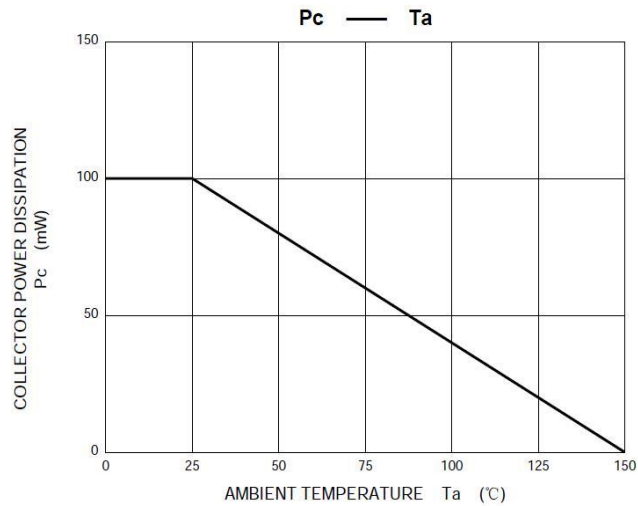
ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=10\mu A, I_E=0$	75	--	--	V
$V_{(BR)CEO}^*$	Collector-emitter breakdown voltage	$I_C=10mA, I_B=0$	40	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10\mu A, I_C=0$	6	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB}=60V, I_E=0$	--	--	0.01	μA
I_{CEX}	Collector cut-off current	$V_{CE}=30V, V_{EB(off)}=3V$	--	--	0.01	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=3V, I_C=0$	--	--	0.01	μA
h_{FE1}^*	DC current gain	$V_{CE}=10V, I_C=150mA$	100	--	300	
h_{FE2}^*		$V_{CE}=10V, I_C=0.1mA$	40	--	--	
h_{FE3}^*		$V_{CE}=10V, I_C=500mA$	42	--	--	
$V_{CE(sat)1}^*$	Collector-emitter saturation voltage	$I_C=500mA, I_B=50mA$	--	--	1	V
$V_{CE(sat)2}^*$		$I_C=150mA, I_B=15mA$	--	--	0.3	V
$V_{BE(sat)}^*$	Base-emitter saturation voltage	$I_C=500mA, I_B=50mA$	--	--	2	V
		$I_C=150mA, I_B=15mA$	--	--	1.2	V
f_T	Transition frequency	$V_{CE}=20V, I_C=20mA, f=100MHz$	300	--	--	MHz
t_d	Delay time	$V_{CC}=30V, V_{BE(off)}=-0.5V, I_C=150mA, I_{B1}=15mA$	--	--	10	ns
t_r	Rise time		--	--	25	ns
t_s	Storage time	$V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA$	--	--	225	ns
t_f	Fall time		--	--	60	ns

*pulse test: Pulse Width $\leq 300\mu s$, Duty Cycles $\leq 2.0\%$.

Typical Operating Characteristics

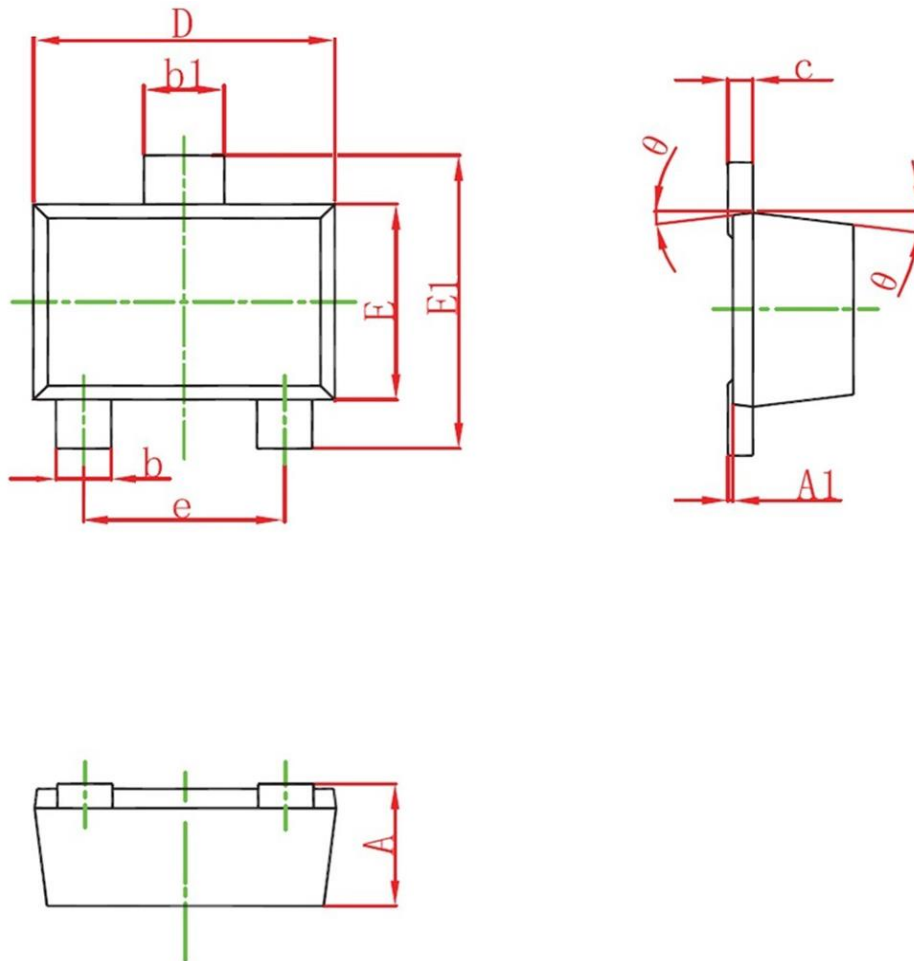




Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MMBT2222AM	SOT-723	1P	8,000	120,000	480,000	7"reel

SOT-723 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.320	0.400	0.012	0.016
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.006	0.010
b1	0.270	0.370	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.046	0.050
E	0.750	0.850	0.030	0.034
E1	1.150	1.250	0.046	0.050
e	0.800TYP		0.020TYP	
θ	7°REF		7°REF	