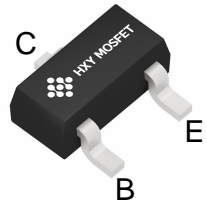




Features

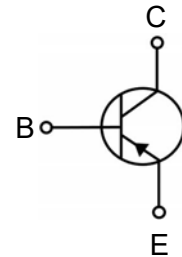
- High current surface mount PNP silicon switching transistor for Load management in portable applications



SOT-23

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MMBT589LT1G	SOT-23	589	3000



Maximum Ratings (Ta=25°C unless otherwise noted)

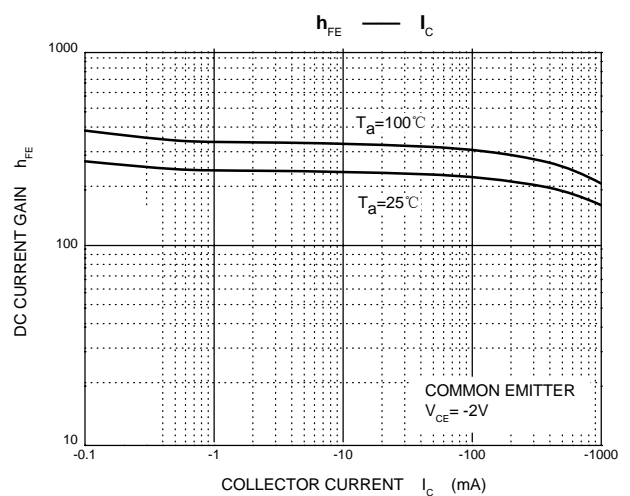
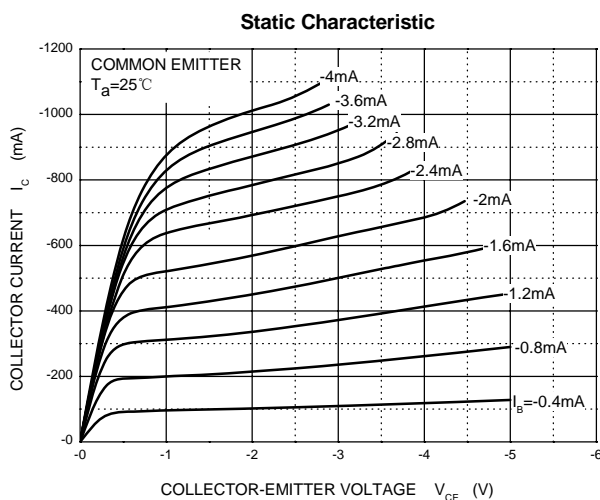
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-1	A
Collector Power Dissipation	P_C	310	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	403	°CW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~+150	°C

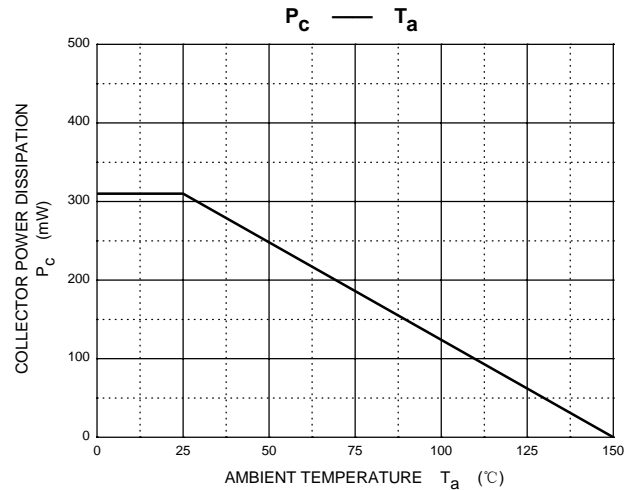
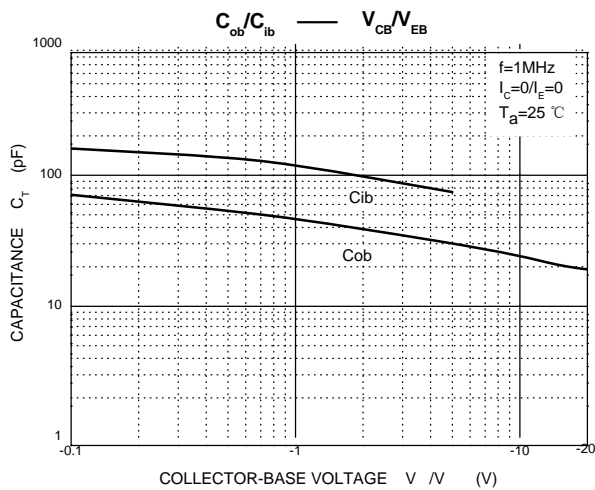
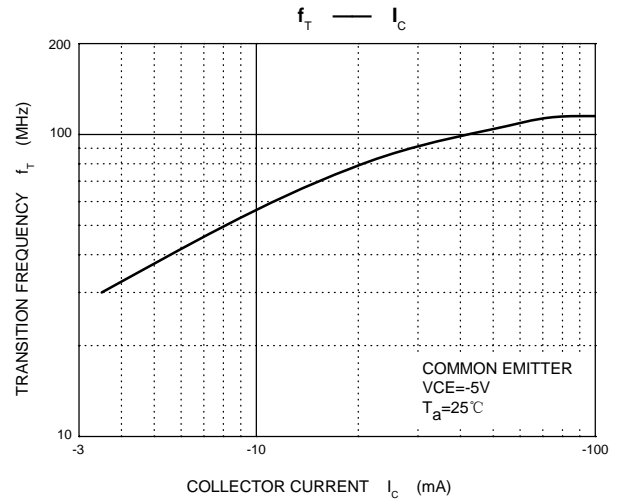
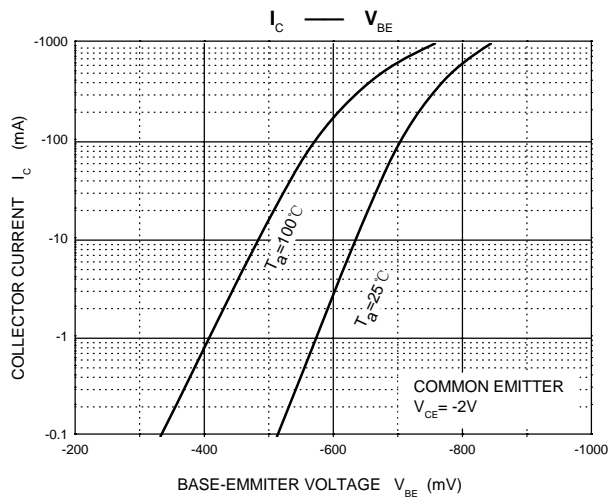
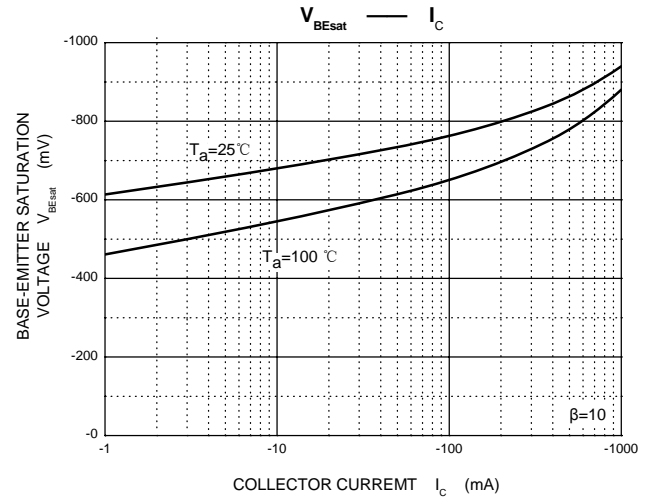
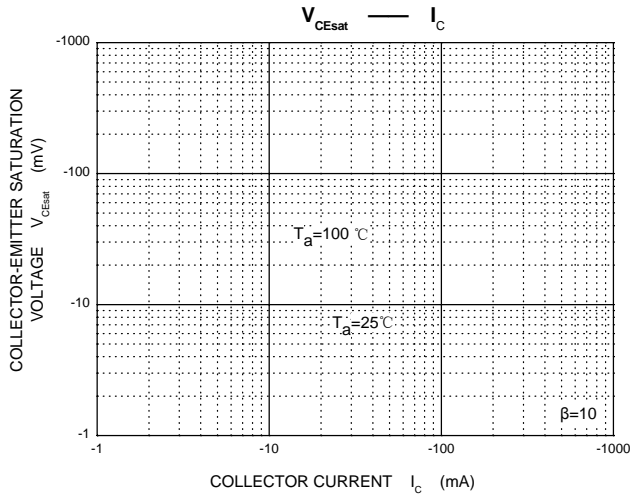


Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-50		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10mA, I_B=0$	-30		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB}=-30V, I_E=0$		-0.1	μA
Collector-emitter cut-off current	I_{CES}	$V_{CES}=-30V$		-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4V, I_C=0$		-0.1	μA
DC current gain	h_{FE1}	$V_{CE}=-2V, I_C=-1mA$	100		
	h_{FE2}	$V_{CE}=-2V, I_C=-500mA$	100	300	
	h_{FE3}	$V_{CE}=-2V, I_C=-1A$	80		
	h_{FE4}	$V_{CE}=-2V, I_C=-2A$	40		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C= -500mA, I_B=-50mA$		-0.25	V
	$V_{CE(sat)2}$	$I_C= -1A, I_B=-100mA$		-0.3	V
	$V_{CE(sat)3}$	$I_C= -2A, I_B=-200mA$		-0.65	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C= -1A, I_B=-100mA$		-1.2	V
Base-emitter Turn-on voltage	$V_{BE(on)}$	$V_{CE}=-2V, I_C=-1A$		-1.1	V
Transition frequency	f_T	$V_{CE}=-5V, I_C=-100mA,$ $f=100MHz$	100		MHz
Collector Output Capacitance	C_{ob}	$f=1MHz$		15	pF

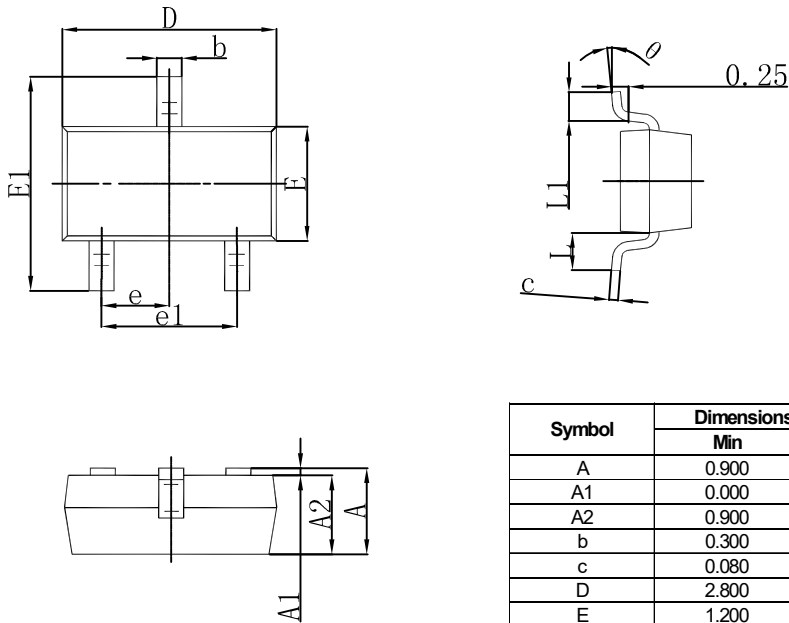
Typical Characteristics





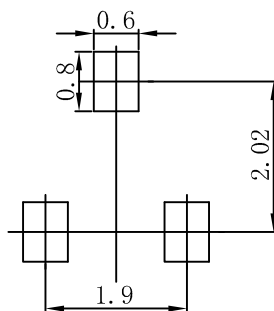


SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.



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