

SOT-23 Plastic-Encapsulate Transistors

MMBT589 TRANSISTOR (PNP)

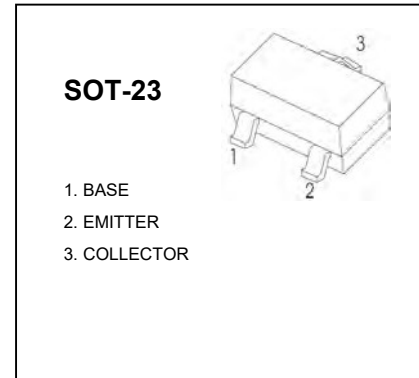
FEATURES

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

MARKING :589

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

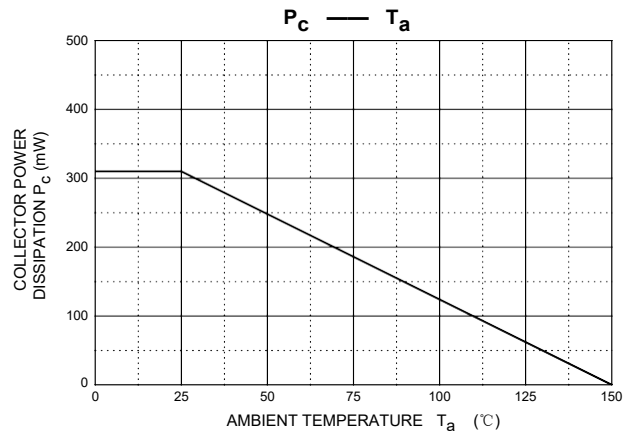
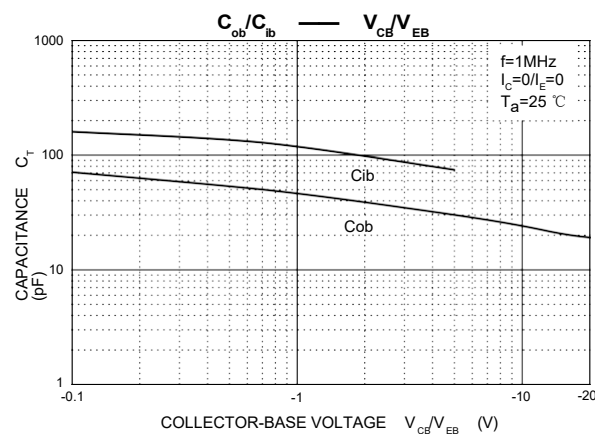
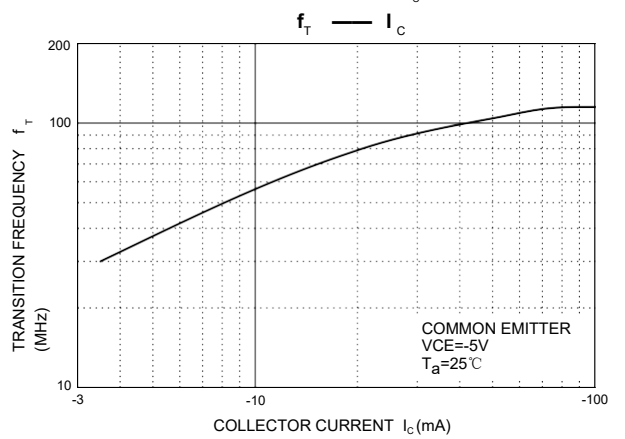
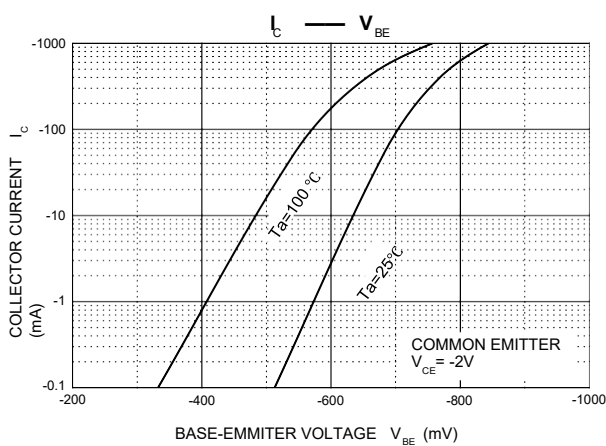
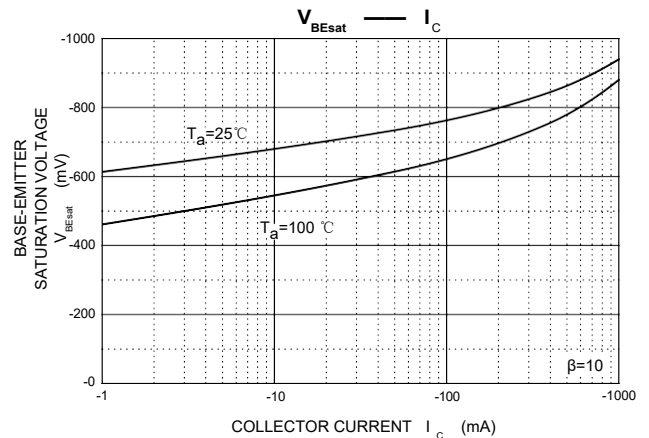
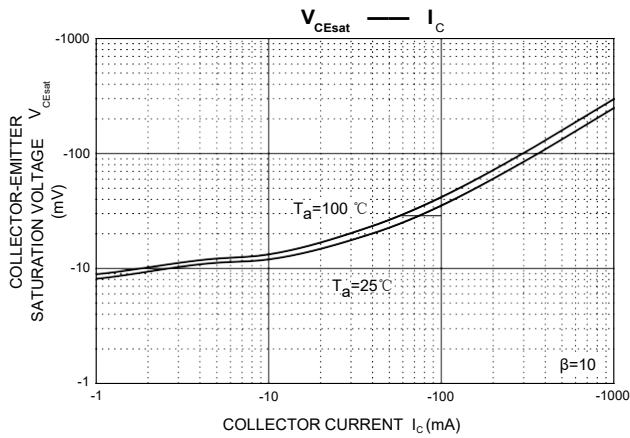
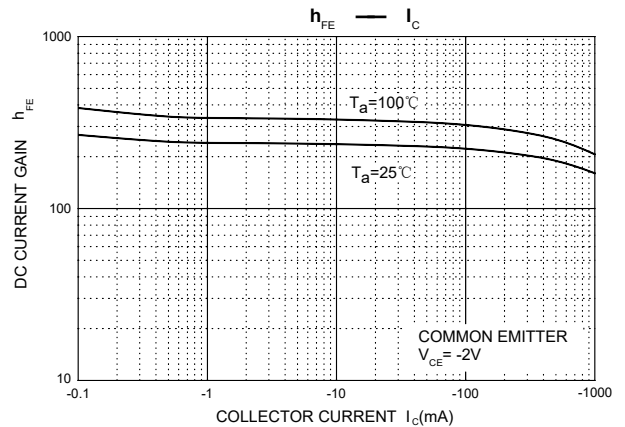
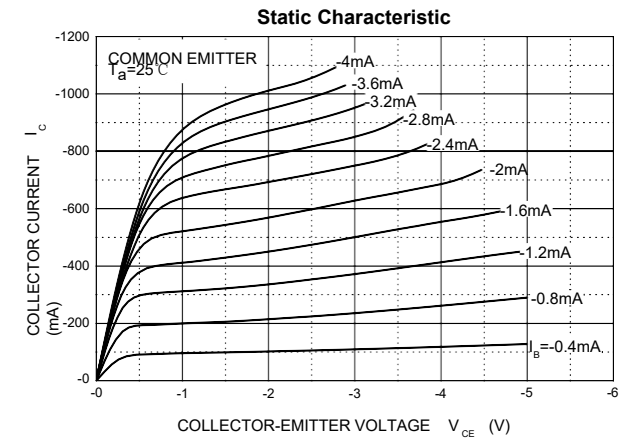
Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-50	V
V _{CEO}	Collector-Emitter Voltage	-30	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current -Continuous	-1	A
P _C	Collector Power Dissipation	310	mW
R _{θJA}	Thermal Resistance, junction to Ambient	403	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, 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 =-100μA, 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 _{CE} =-30			-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

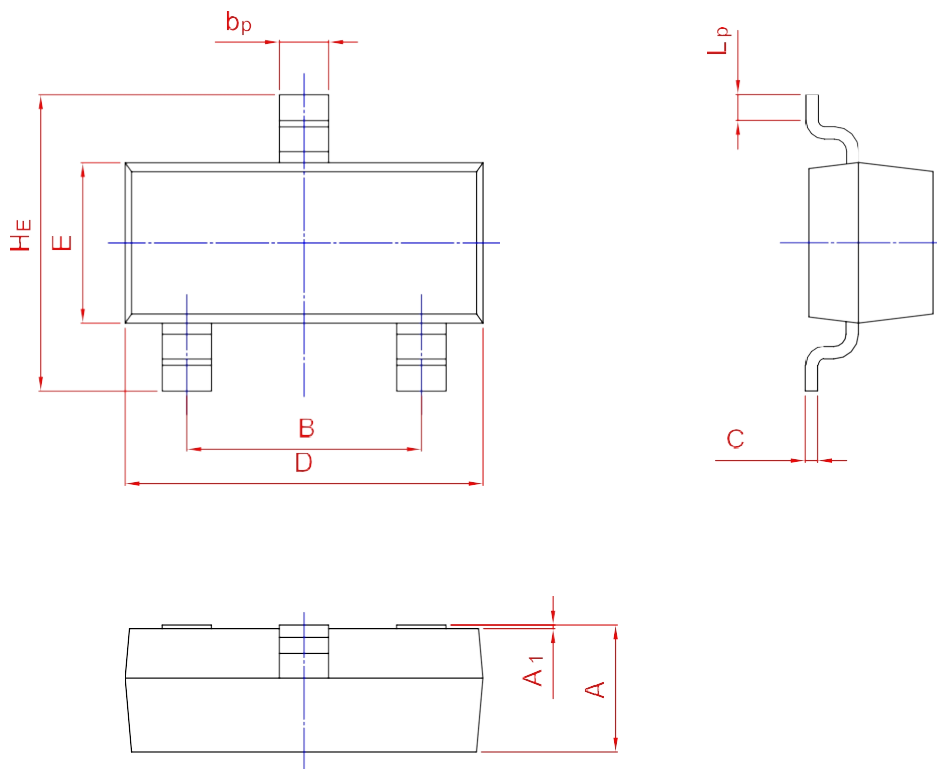
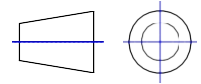
Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b _p	C	D	E	H _E	A ₁	L _p
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20