

SOT-23 Plastic-Encapsulate Transistors

MMBT1116 TRANSISTOR(PNP)

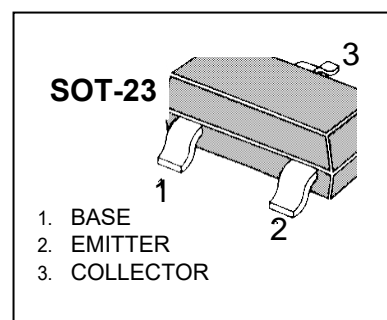
FEATURES

- High Collector Power Dissipation

MARKING: 1116

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-60	V
V _{CEO}	Collector-Emitter Voltage	-50	V
V _{EBO}	Emitter-Base Voltage	-6	V
I _C	Collector Current -Continuous	-1	A
P _C	Collector Power Dissipation	0.35	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



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

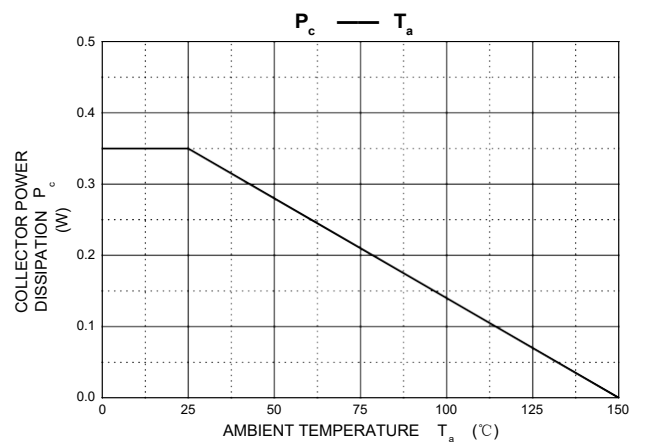
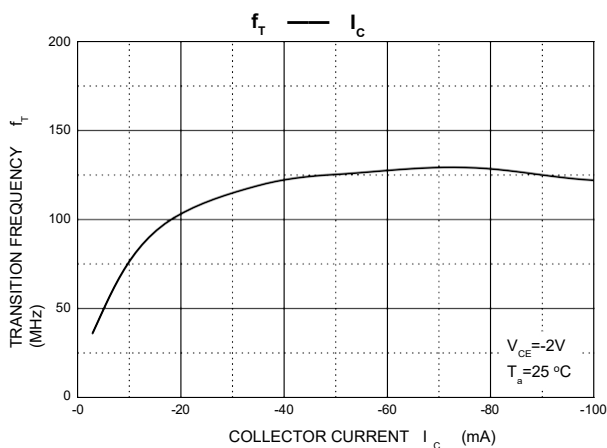
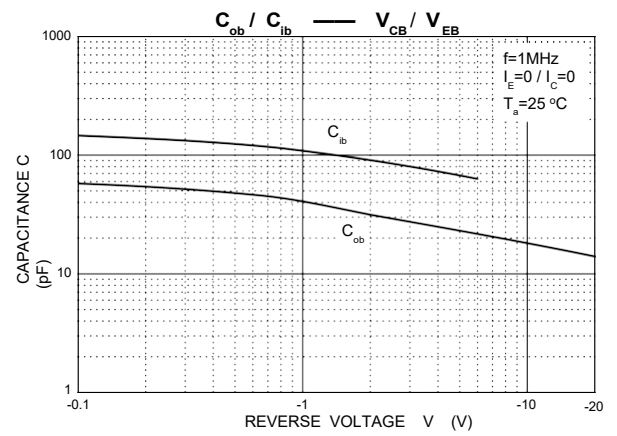
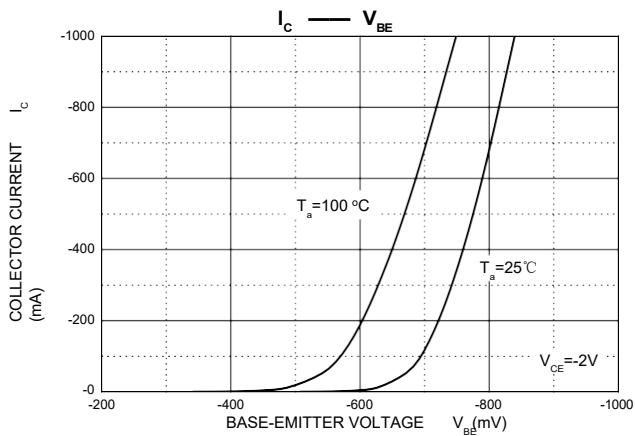
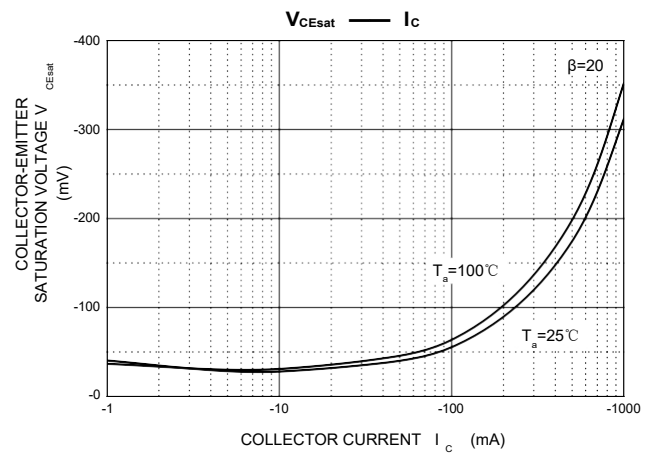
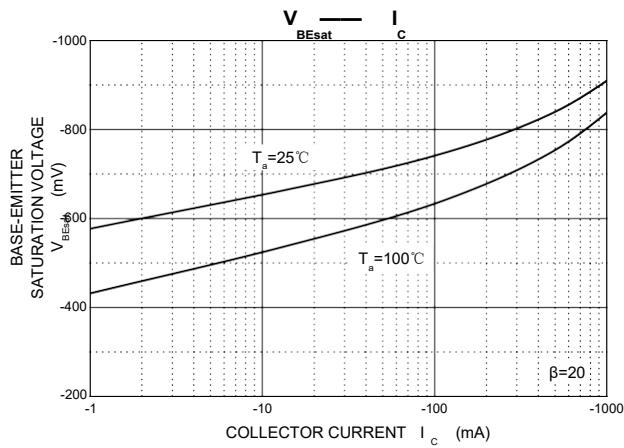
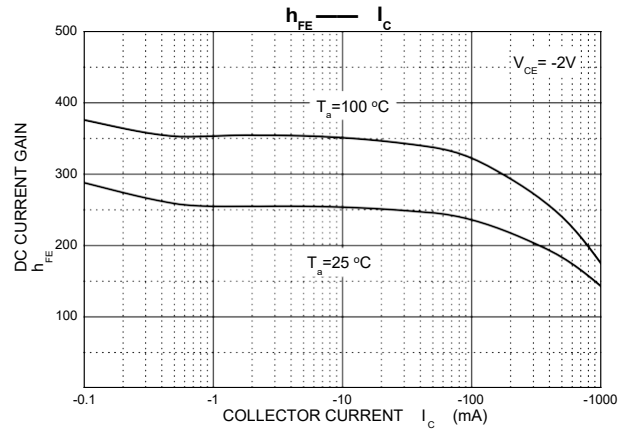
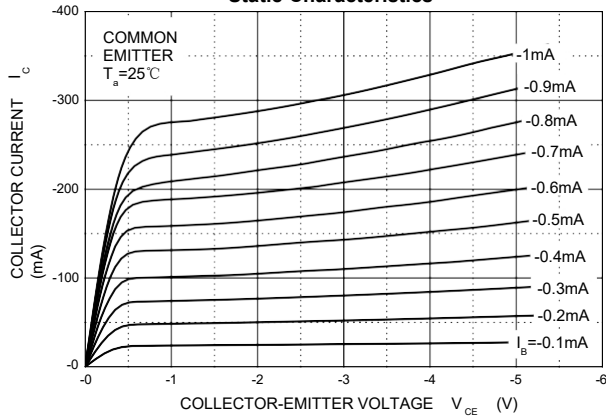
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0	-60			V	
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-50			V	
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-100μA, I _C =0	-6			V	
Collector cut-off current	I _{CBO}	V _{CB} =-60V, I _E =0			-0.1	μA	
Emitter cut-off current	I _{EBO}	V _{EB} =-6V, I _C =0			-0.1	μA	
DC current gain	h _{FE(1)}	V _{CE} =-2V, I _C =-0.1A	135		600		
	h _{FE(2)}	V _{CE} =-2V, I _C =-1A	81				
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-1A, I _B =-50mA			-0.3	V	
Base -emitter saturation voltage	V _{BE(sat)}	I _C =-1A, I _B =-50mA			-1.2	V	
Base -emitter voltage	V _{BE}	V _{CE} =-2V, I _C =-0.05A	-0.6		-0.7	V	
Transition frequency	f _T	V _{CE} =-2V, I _C =-0.1A	70			MHz	
Collector output capacitance	C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz		25		pF	
Turn-on time	t _{on}	V _{CC} =-10V, I _C =-0.1A, I _{B1} =-I _{B2} =-0.01A, V _{BE(off)} =2to3V		0.07		us	
Storage time	t _s				0.7		us
Fall time	t _f				0.07		us

CLASSIFICATION OF h_{FE(1)}

Rank	Y	G	L
Range	135-270	200-400	300-600

Typical Characteristics

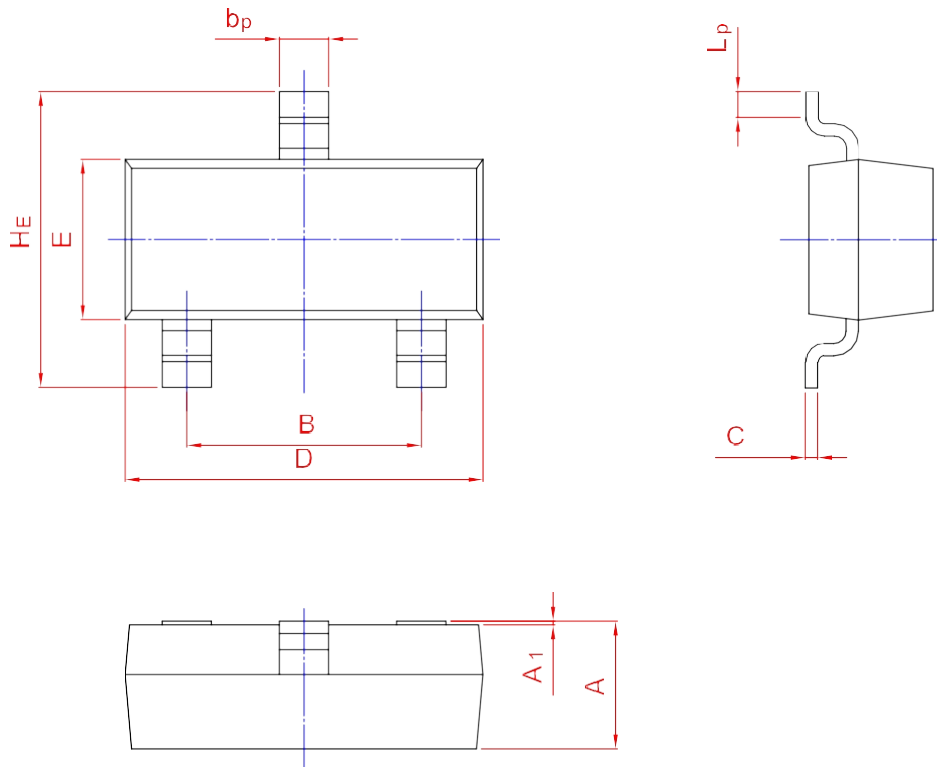
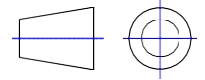
Static Characteristics



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