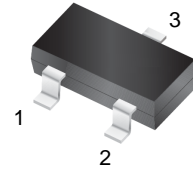


PNP Small Signal Transistor in SOT-23

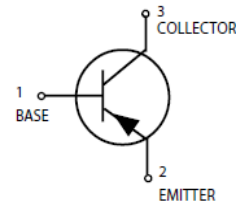
Features

- Epitaxial Planar Die Construction
- Ultra-Small Surface Mount Package
- Complementary NPN Type: MMBT3904



Mechanical Data

- **Case:** SOT-23 (plastic package).
Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals



Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-200	mA
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	°C/W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 ~ +150	°C

Electrical Characteristics

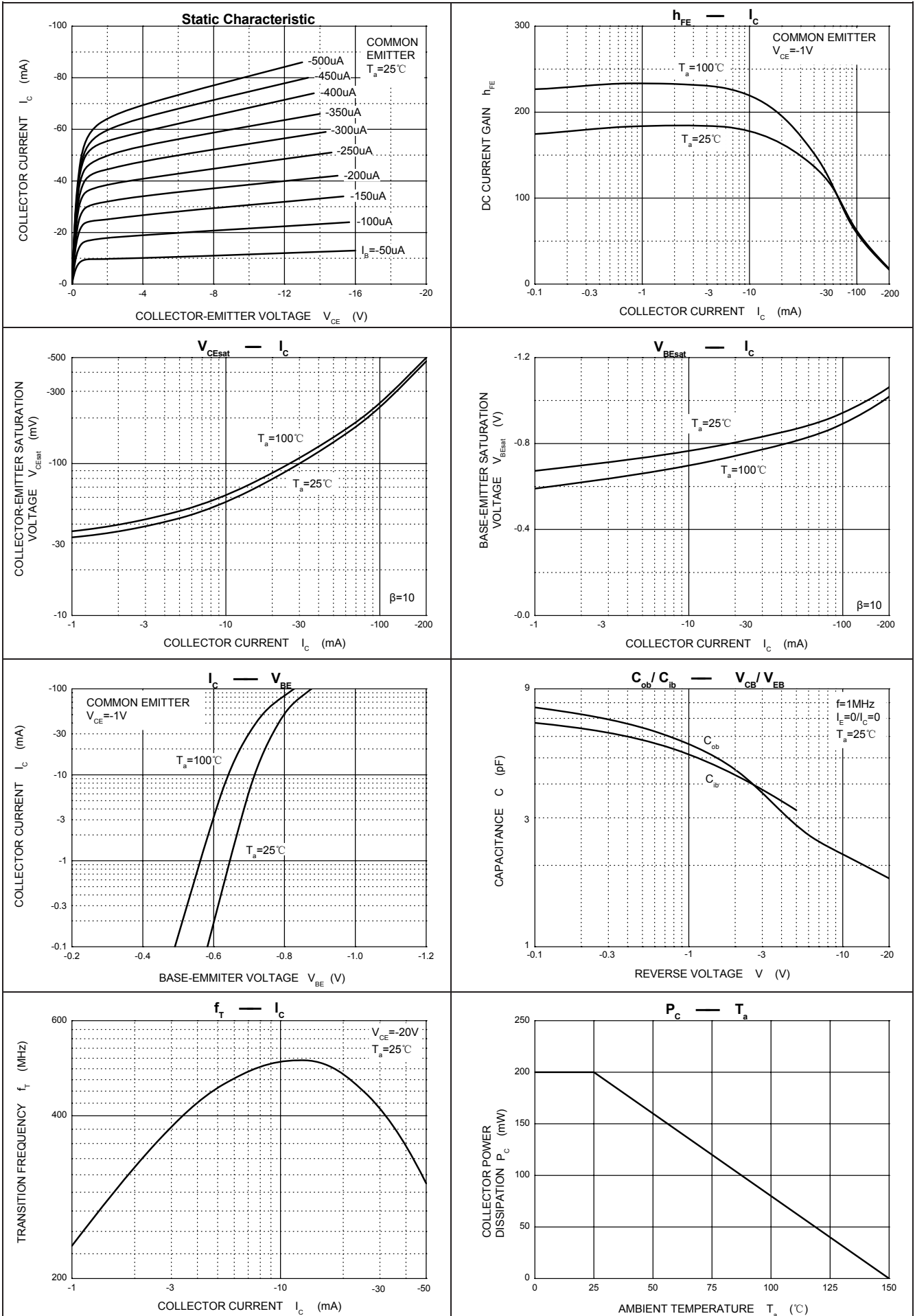
 (T_A = 25 °C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0	-40		V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = -1mA, I _B =0	-40		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = -10μA, I _C =0	-5		V
Collector cut-off current	I _{CBO}	V _{CB} = -40 V, I _E =0		-100	nA
Collector cut-off current	I _{CEX}	V _{CE} =-30V, V _{BE(off)} =-3V		-50	nA
Emitter cut-off current	I _{EBO}	V _{EB} = -5V, I _C =0		-100	nA
DC current gain	h _{FE1}	V _{CE} =-1V, I _C = -10mA	100	300	
	h _{FE2}	V _{CE} = -1V, I _C =-50mA	60		
	h _{FE3}	V _{CE} = -1V, I _C =-100mA	30		
Collector-emitter saturation voltage	V _{CE(sat)1}	I _C =-50mA, I _B =-5mA		-0.3	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = -50mA, I _B =-5mA		-0.95	V
Transition frequency	f _T	V _{CE} =-20V, I _C =-10mA, f=100MHz	300		MHz
Delay Time	t _d	V _{CC} =-3V, V _{BE} =-0.5V		35	nS
Rise Time	t _r	I _C =-10mA, I _{B1} =I _{B2} =-1mA		35	nS
Storage Time	t _s	V _{CC} =-3V, I _C =-10mA		225	nS
Fall Time	t _f	I _{B1} =I _{B2} =-1mA		75	nS

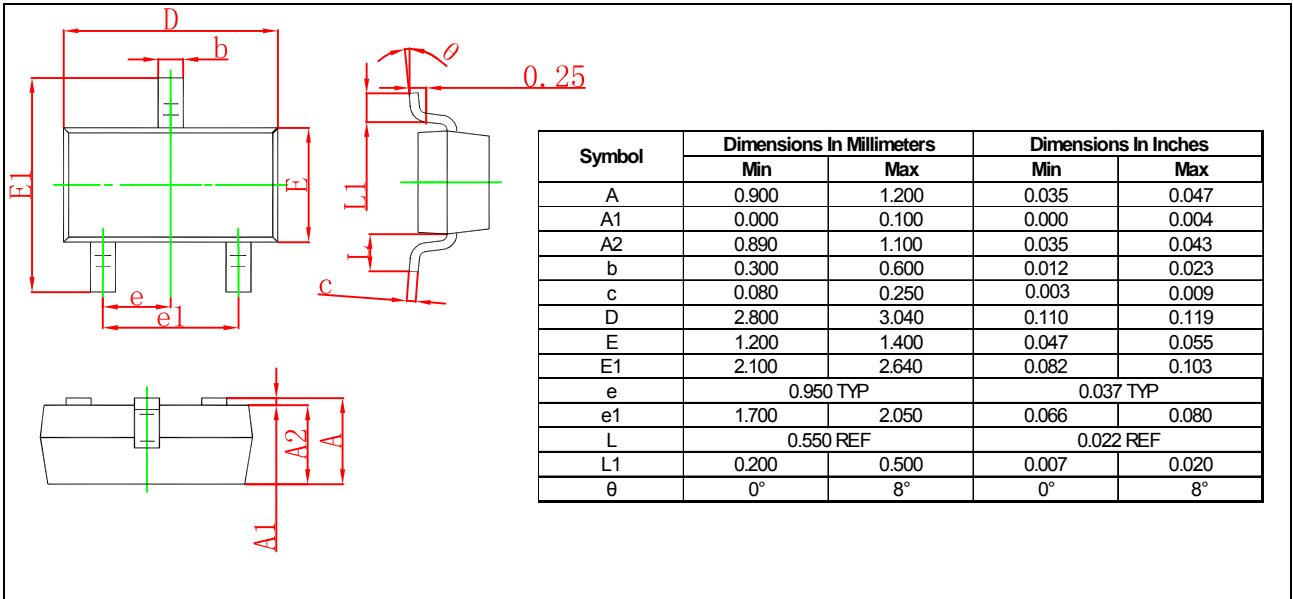
Classification of h_{FE(1)}

HFE	100-300	
RANK	L	H
RANGE	100 - 200	200 - 300

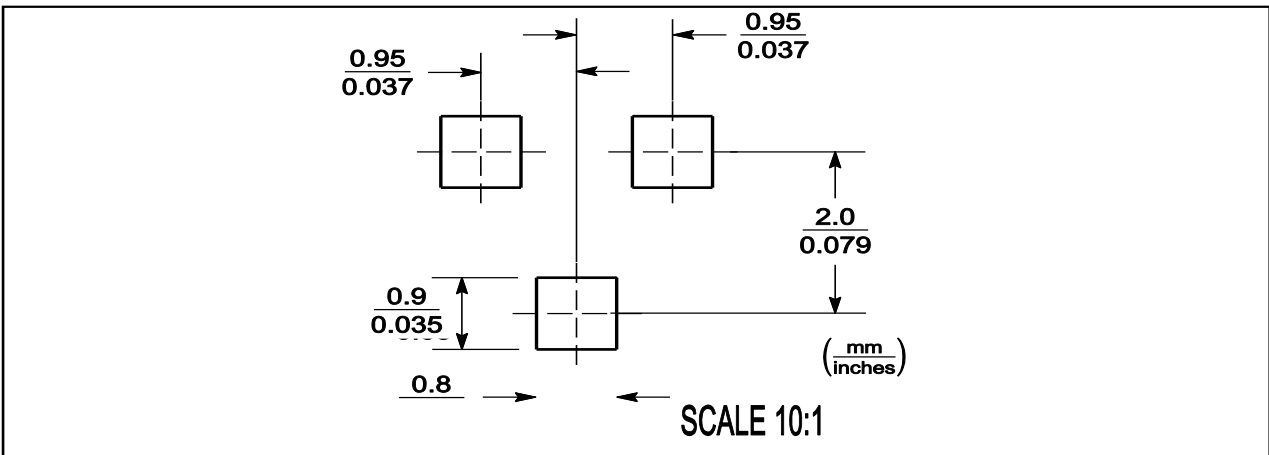
Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)



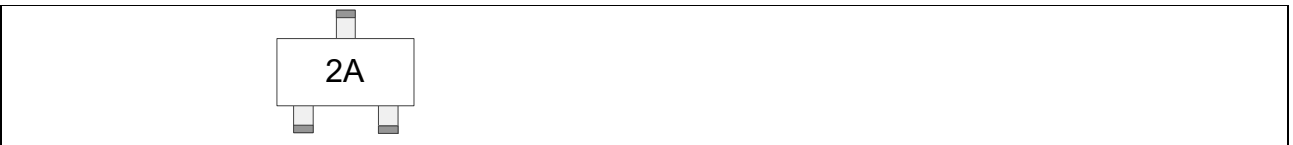
Package Dimensions



PAD Dimensions



Marking



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
MMBT3906	SOT-23	Tape and reel	3000pcs / reel	EIA STD RS-481

Revision history

Date	Revision	Changes
10-May-2024	4.0	Update

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