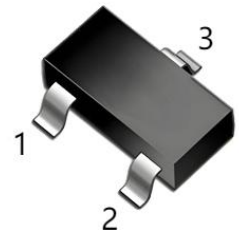


TRANSISTOR (PNP)

Parameter	Value	Unit
V_{CEO}	-40	V
I_C	-0.2	A

1. BASE
2. EMITTER
3. COLLECTOR



SOT-23

Features

- Complementary to NPN Transistor MMBT3904
- Epitaxial Planar Die Construction

Absolute maximum ratings (Ta=25°C unless otherwise noted)

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	-0.2	A
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-60~150	°C
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	°C/W

Note:

Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

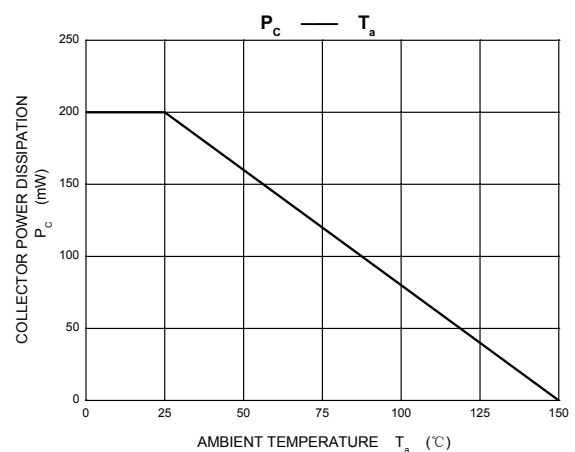
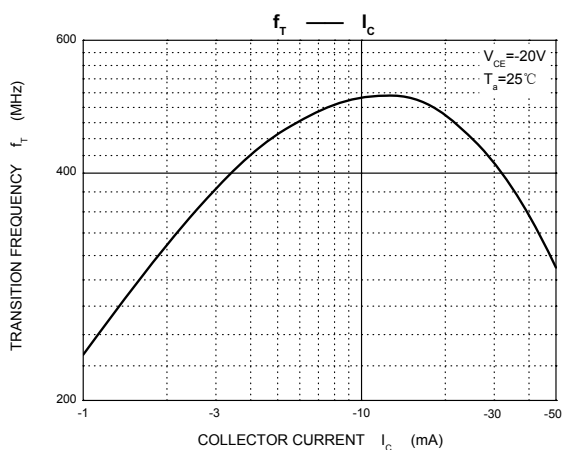
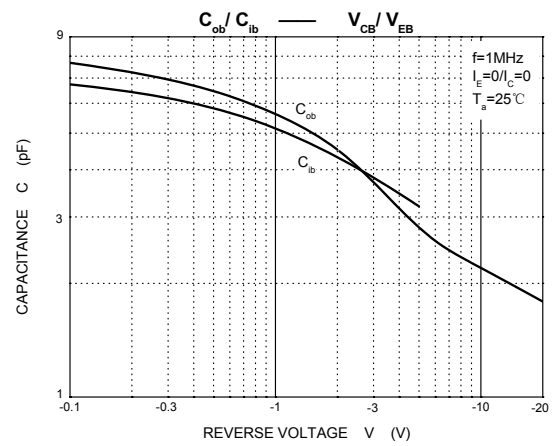
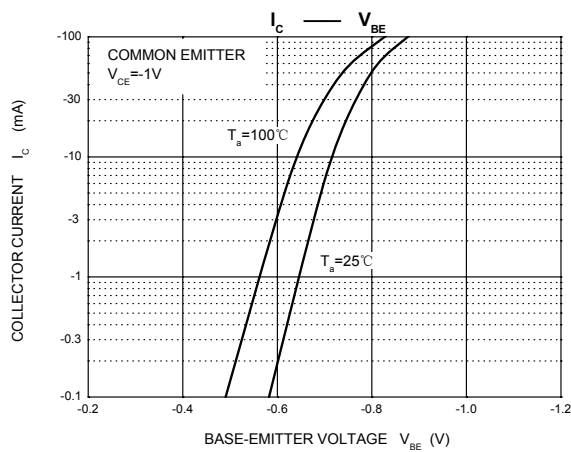
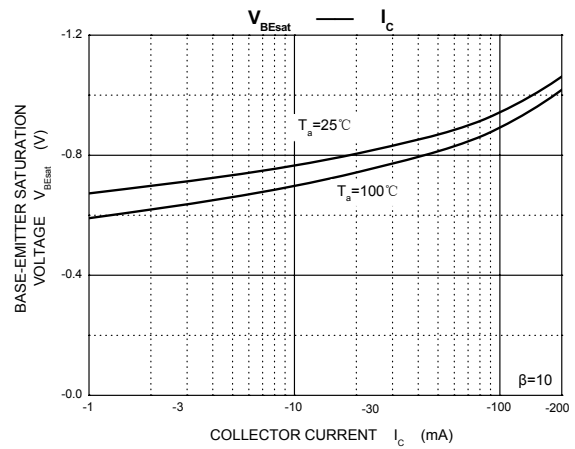
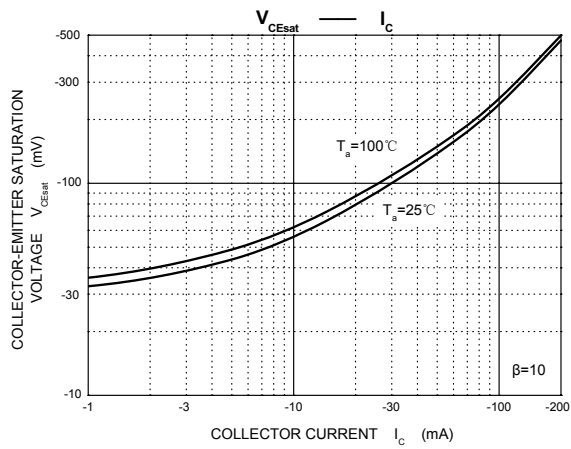
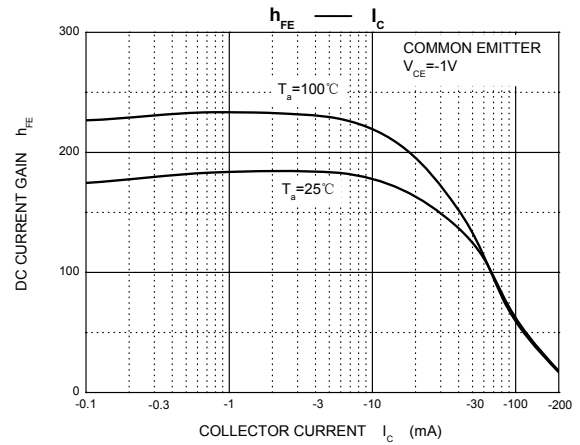
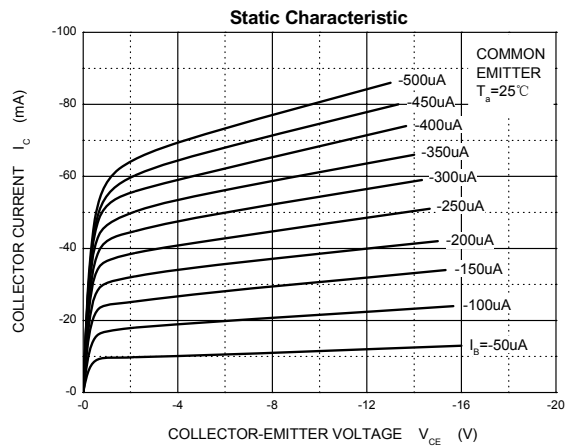
Electrical characteristics(Ta=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5		V
Collector cutoff current	I_{CBO}	$V_{CB}=-40V, I_E=0$		-0.1	μA
Collector cut-off current	I_{CEX}	$V_{CE}=-30V, V_{BE(off)}=-3V$		-0.05	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5V, I_C=0$		-0.1	μA
DC Current Gain (CLASSIFICATION OF h_{FE1})	h_{FE1}	$V_{CE}=-1V, I_C=-10mA$	100	300	
	h_{FE2}	$V_{CE}=-1V, I_C=-50mA$	60		
	h_{FE3}	$V_{CE}=-2V, I_C=-100mA$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-50mA, I_B=-5mA$		-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	$V_{CC}=-3V, V_{BE}=-0.5V$ $I_C=-10mA, I_{B1}=I_{B2}=-1mA$		35	nS
Rise Time	t_r			35	nS
Storage Time	t_s	$V_{CC}=-3V, I_C=-10mA, I_{B1}=I_{B2}=-1mA$		225	nS
Fall Time	t_f			75	nS

CLASSIFICATION OF $h_{FE(1)}$

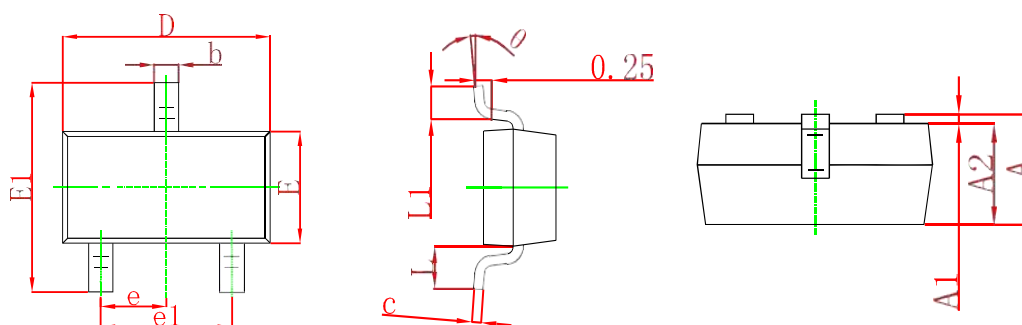
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

Typical characteristics



Package outline Dimensions

SOT-23



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°

*Important Usage Information and Disclaimer

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