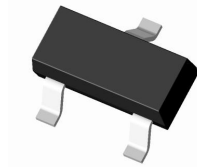


SOT-23 Plastic-Encapsulate Transistors

Features

- Complementary to MMBT3904
- 200mW; Power Dissipation of 200mW
- High Stability and High Reliability



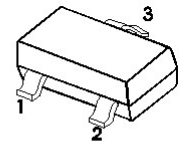
Marking: 2A

SOT-23

Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Pin definition



1. BASE
2. EMITTER
3. COLLECTOR

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

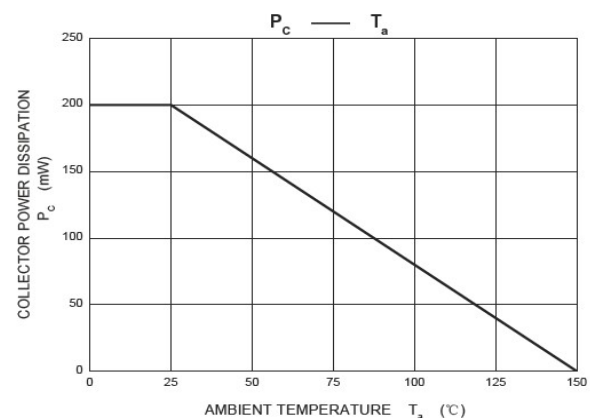
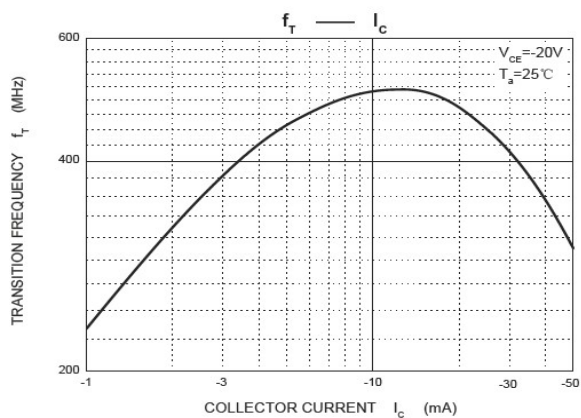
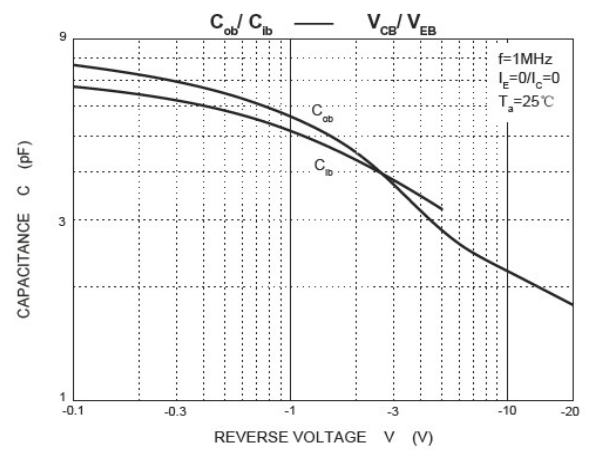
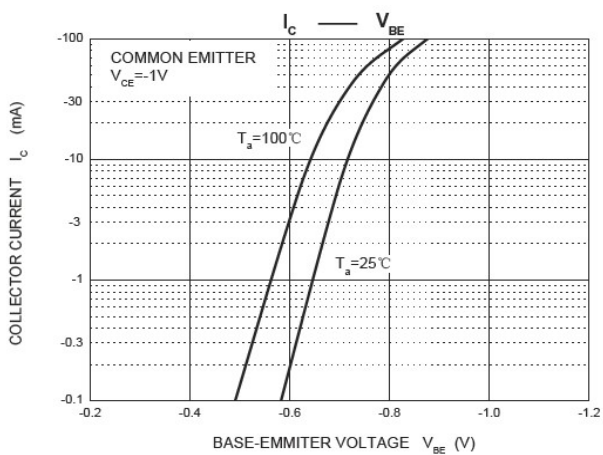
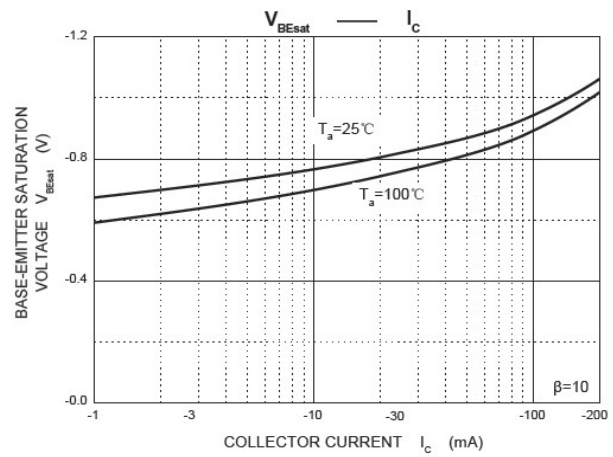
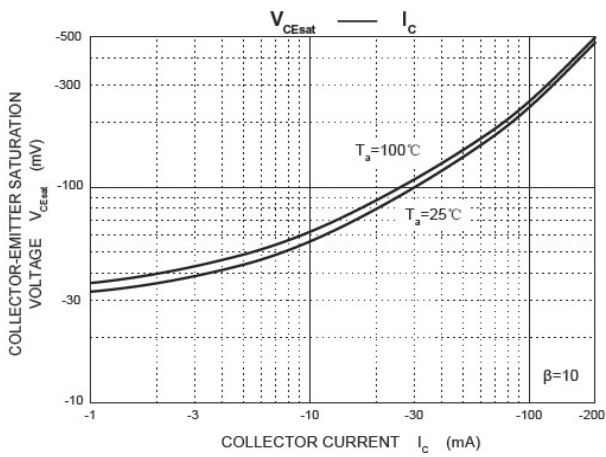
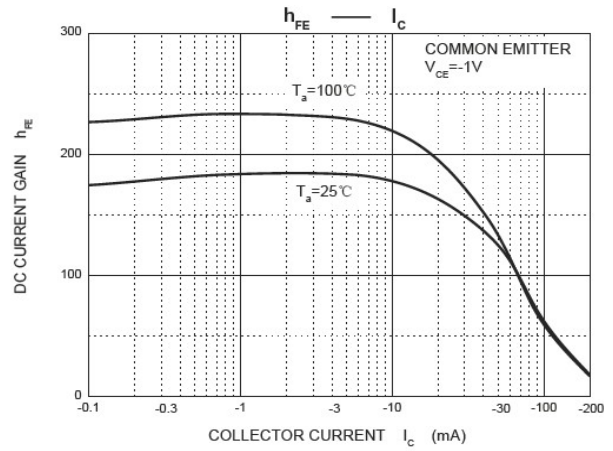
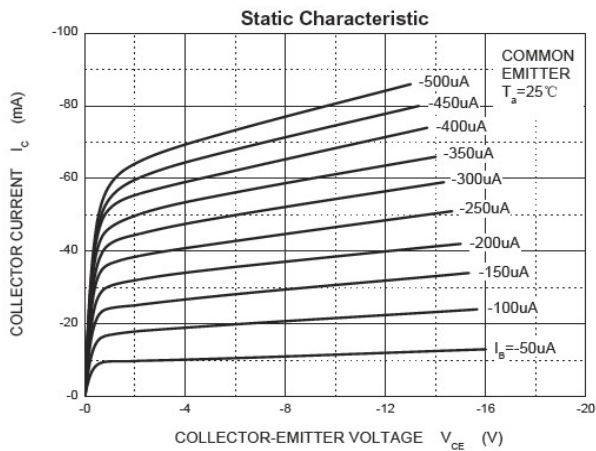
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-40	V
Collector-Emitter Voltage	V _{CEO}	-40	V
Emitter -Base Voltage	V _{EBO}	-5	V
Collector Current-Continuous	I _C	-200	mA
Collector Power Dissipation	P _C	200	mW
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}	625	°C/W

Electrical Specifications (T _A =25°C unless otherwise noted)					
Parameter	Symbol	Test Conditions	Limits		Unit
			Min	Max	
Collector-basebreakdown voltage	V(BR)CBO	I _C =-10μA, I _E =0	-40		V
Collector-emitterbreakdown voltage	V(BR)CEO	I _C =-1mA, I _B =0	-40		V
Emitter-basebreakdown voltage	V(BR)EBO	I _E =-10μA, I _C =0	-5		V
Collector cut-off current	I _C EX	V _{CE} =-30V, V _{EB(off)} =-3V		-100	nA
Collector cut-off current	I _C B0	V _{CB} =-40V, I _E =0		-50	nA
Emitter cut-off current	I _E B0	V _{EB} =-5V, I _C =0		-100	nA
DC current gain	h _{FE} (1)	V _{CE} =-1V, I _C =-10mA	100	300	
	h _{FE} (2)	V _{CE} =-1V, I _C =-50mA	60		
	h _{FE} (3)	V _{CE} =-1V, I _C =-100mA	30		
Collector-emittersaturation voltage	V _{CE(sat)}	I _C =-50mA, I _B =-5mA		-0.30	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(off)} =-0.5V, I _C =-10mA, I _{B1} =-1mA		35	nS
Rise time	t _r	V _{CC} =-3V, V _{BE(off)} =-0.5V, I _C =-10mA, I _{B1} =-1mA		35	nS
Storage time	t _s	V _{CC} =-3V, I _C =-10mA, I _{B1} =I _{B2} =-1mA		225	nS
Fall time	t _f	V _{CC} =-3V, I _C =-10mA, I _{B1} =I _{B2} =-1mA		75	nS

Classification OF h _{FE} (1)		
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

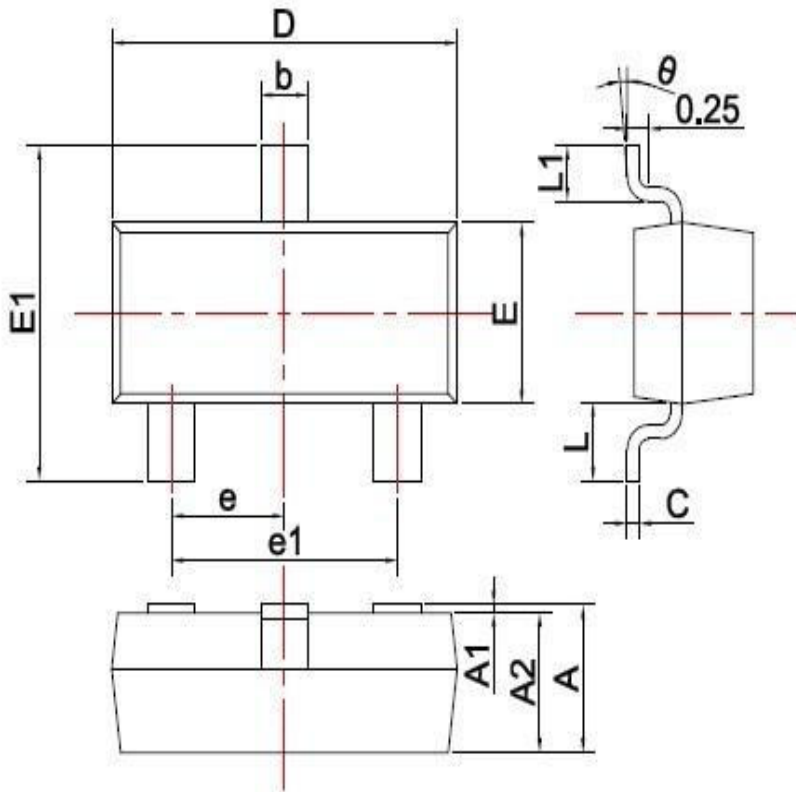
Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)



Package Outline Dimensions

millimeters



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Revision History

Document Version	Date of release	Description of changes
Rev.A	2020.02.16	First issue

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