

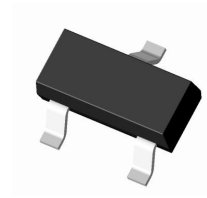
SOT-23 Plastic-Encapsulate Transistors

Features

- Complementary to MMBT2907A
- 300mW; Power Dissipation of 300mW
- High Stability and High Reliability

Mechanical Data

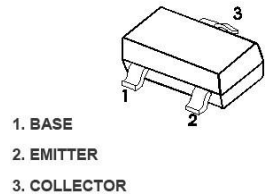
- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



Marking: 1P

SOT-23

Pin definition



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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	75	V
Collector-Emitter Voltage	V _{CEO}	40	V
Emitter -Base Voltage	V _{EBO}	6	V
Collector Current-Continuous	I _C	600	mA
Collector Power Dissipation	P _C	300	mW
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}	417	°C/W

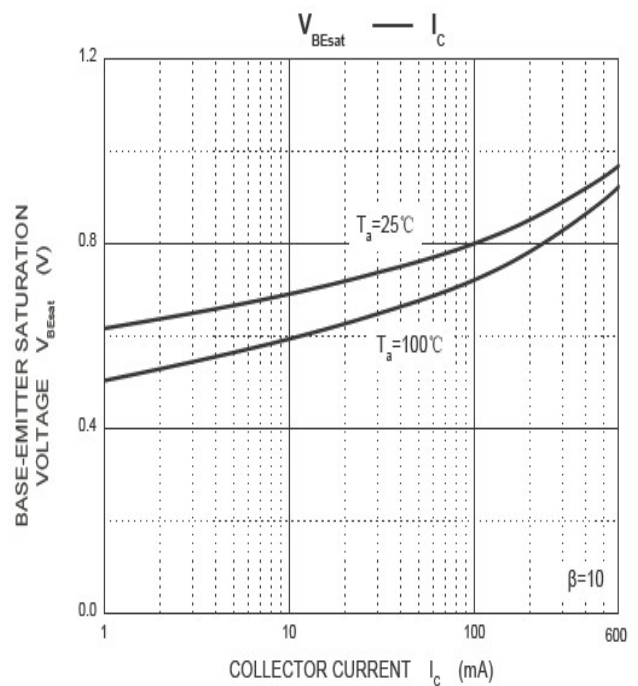
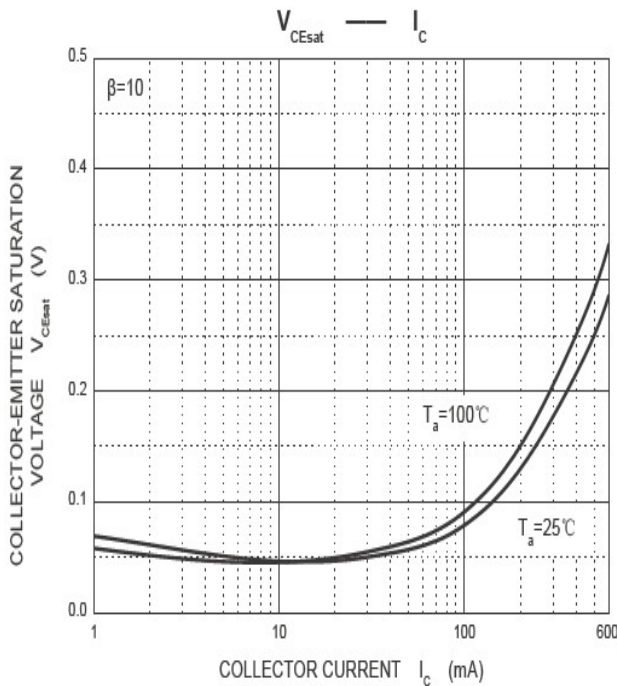
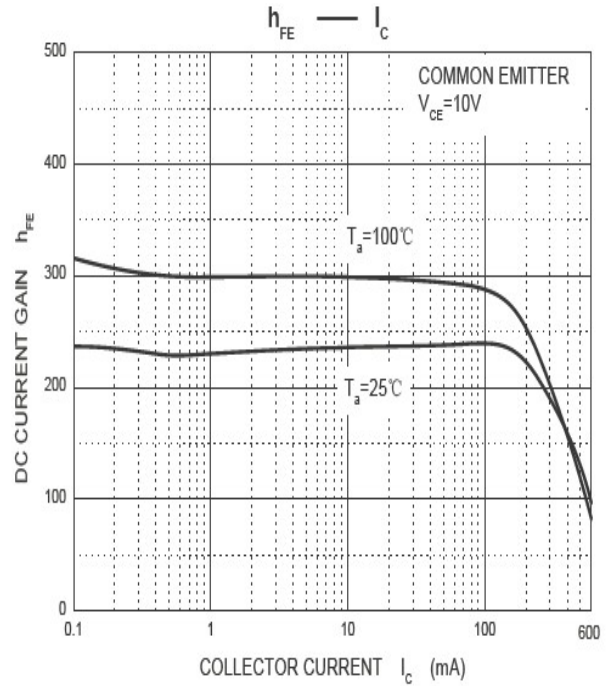
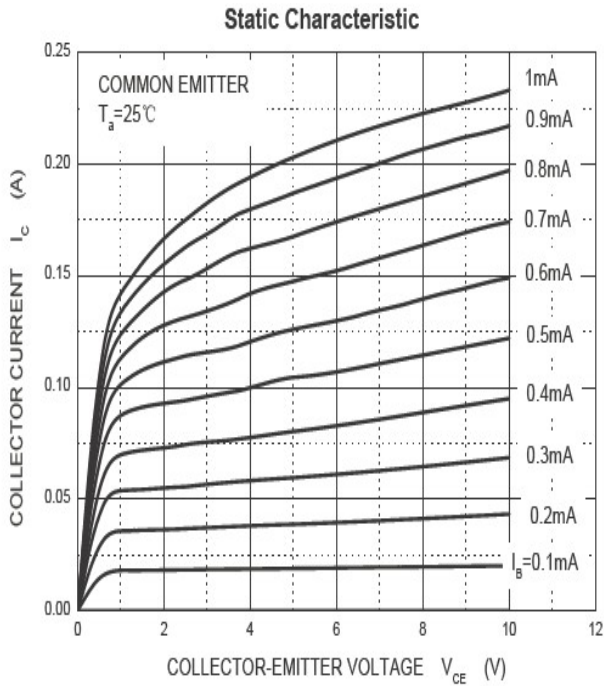
Electrical Specifications (T _A =25°C unless otherwise noted)					
Parameter	Symbol	Test Conditions	Limits		Unit
			Min	Max	
Collector-basebreakdown voltage	V(BR)CBO	I _C =10uA, I _E =0	75		V
Collector-emitterbreakdown voltage	V(BR)CEO	I _C =10mA, I _B =0	40		V
Emitter-basebreakdown voltage	V(BR)EBO	I _E =10uA, I _C =0	6		V
Collector cut-off current	ICEX	V _{CE} =30V, V _{EB(off)} =3V		10	nA
Collector cut-off current	ICBO	V _{CB} =60V, I _E =0		10	nA
Emitter cut-off current	IEBO	V _{EB} =3V, I _C =0		100	nA
DC current gain	hFE(1)	V _{CE} =10V, I _C =150mA	100	300	
	hFE(2)	V _{CE} =10V, I _C =0.1mA	40		
	hFE(3)	V _{CE} =10V, I _C =500mA	42		
Collector-emittersaturation voltage	V _{CE(sat)1}	I _C =500mA, I _B =50mA		1.00	V
	V _{CE(sat)2}	I _C =150mA, I _B =15mA		0.30	V
Base -emittersaturation voltage	V _{BE(sat)1}	I _C =500mA, I _B =50mA		2.00	V
	V _{BE(sat)2}	I _C =150mA, I _B =15mA		1.20	V
Transition frequency	f _T	V _{CE} =20V, I _C =20mA, f=100MHz	300		MHz
Delay time	t _d	V _{CC} =30V, V _{BE(off)} =-0.5V, I _C =150mA, I _{B1} =15mA		10	nS
Rise time	t _r			25	nS
Storage time	t _s	V _{CC} =30V,		225	nS
Fall time	t _f	I _C =150mA, I _{B1} =I _{B2} =15mA		60	nS

*Pulse test: pulse width ≤ 300us, duty cycle ≤2.0%.

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

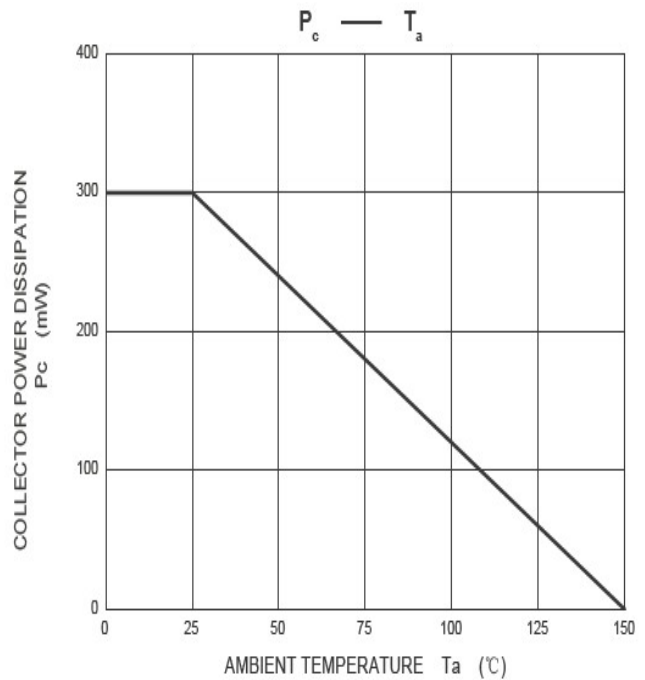
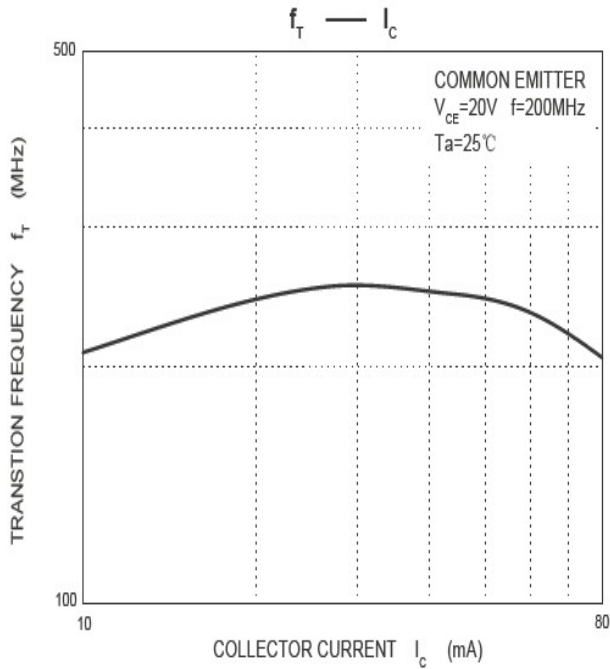
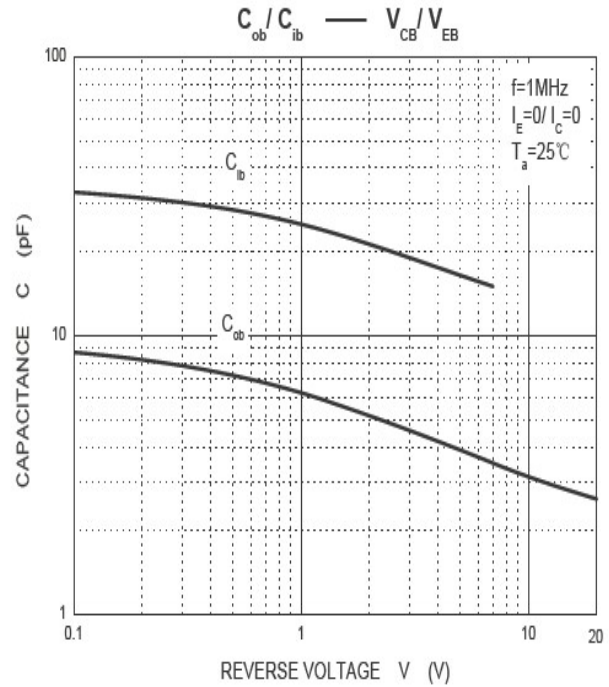
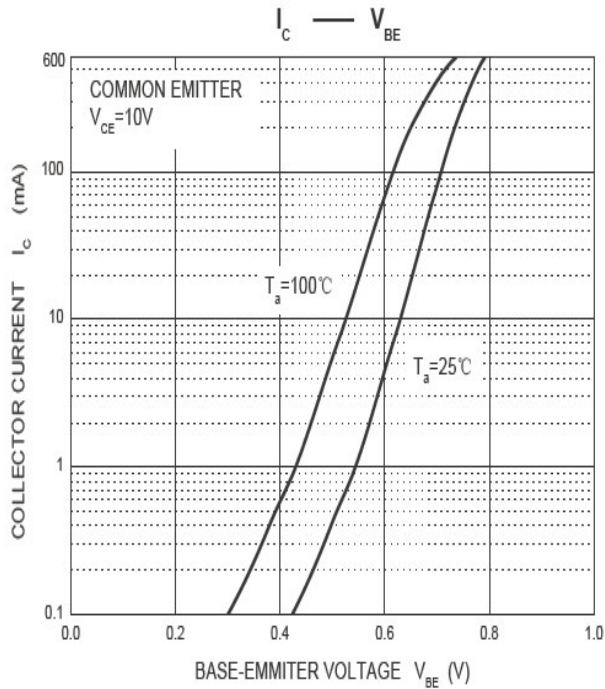
Ratings and Characteristics Curves

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



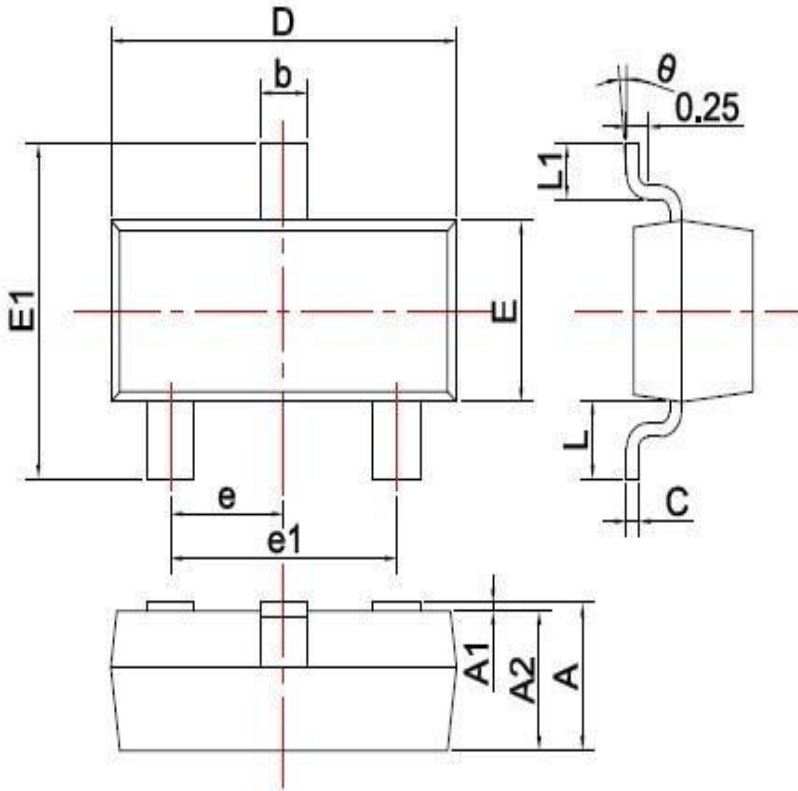
Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ 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	2017.06.13	First issue

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