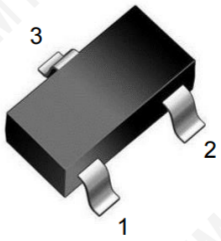
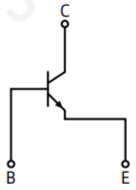
Features

- For General AF Applications
- High Collector Current
- High Current Gain
- Low Collector-Emitter Saturation Voltage



SOT-323 top view



Equivalent Circuit

1.BASE
2.EMITTER
3.COLLECTOR

Absolute Maximum Ratings(TA=25℃)

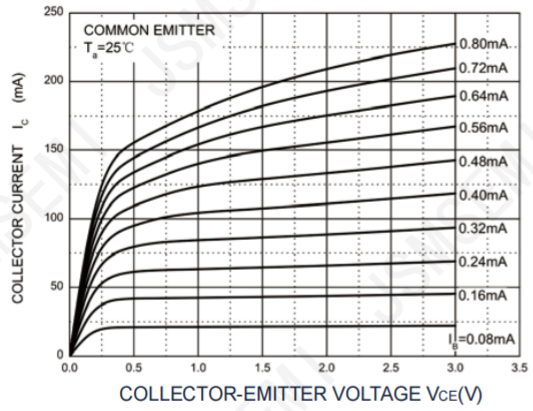
Symbol	Parameter	Value	Uniat
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	0.5	A
P_C	Collector Power Dissipation	0.2	W
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_J,T_{stg}	Operation Junction And Storage Temperature Range	-55～+150	℃

Electrical Characteristics (TA=25℃ unless otherwise specified)

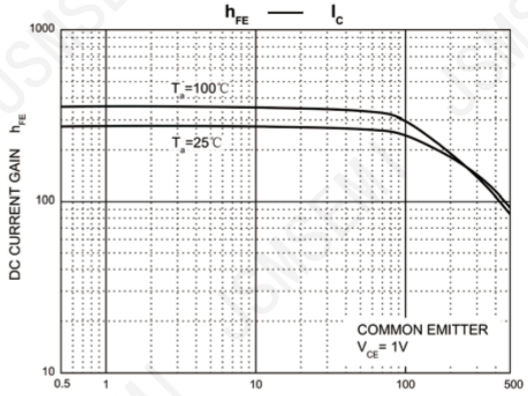
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=10μA, I_E=0	50			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=10mA, I_B=0	45			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=1μA, I_C=0	5			V
I_{CBO}	Collector cut-off current	V_{CB}=20V, I_E=0			0.1	μA
I_{EBO}	Emitter cut-off current	V_{EB}=5V, I_C=0			0.1	μA
$h_{FE(1)}$	DC current gain	V_{CE}=1V,I_C=100mA	100		600	
$h_{FE(2)}$		V_{CE}=1V,I_C=500mA	40			
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=500mA, I_B=50mA			0.7	V
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C=500mA, I_B=50mA			1.2	V
$V_{BE(on)}$	Base-emitter voltage	V_{CE}=1V,I_C=500mA			1.2	V
f_T	Transition frequency	V_{CE}=5V,I_C=10mA,f=100MHz	100			MHz
Cob	Collector output capacitance	V_{CB}=10V,f=1MHz			5	pF

Typical Characteristics

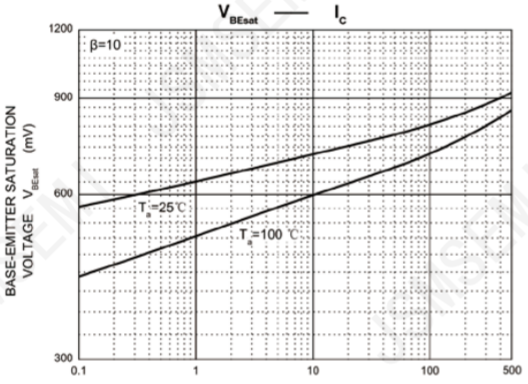
Static Characteristic



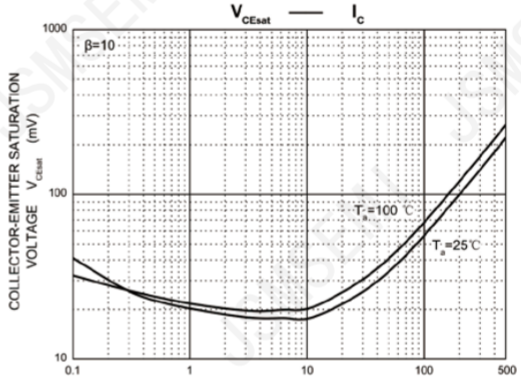
h_{FE} — I_C



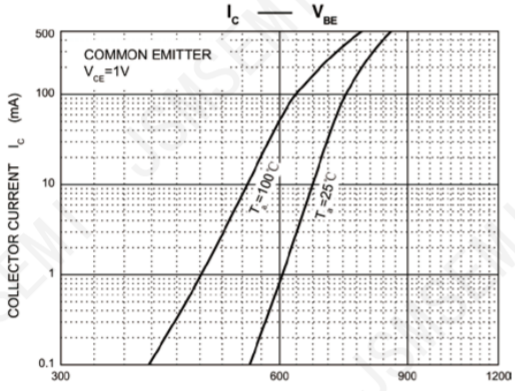
V_{BEsat} — I_C



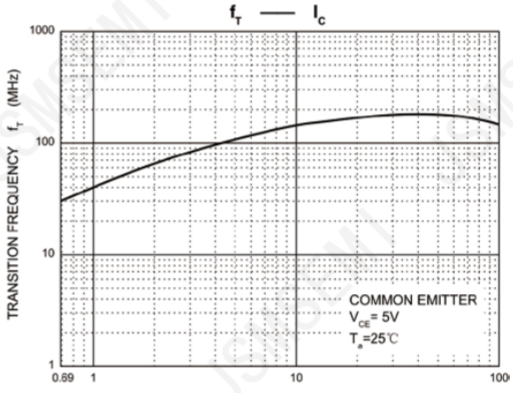
V_{CEsat} — I_C



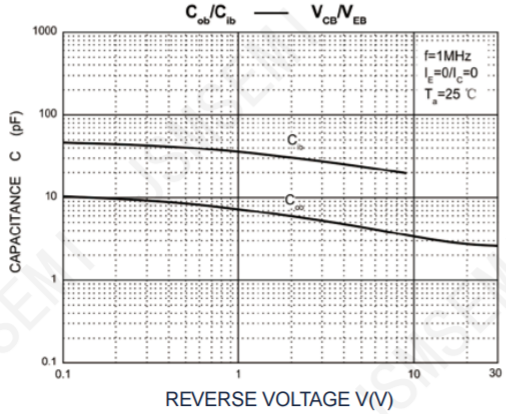
I_C — V_{BE}



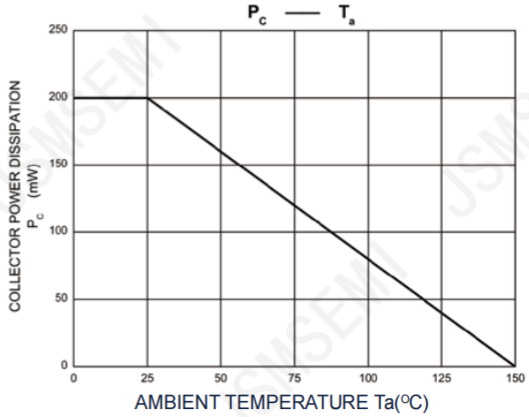
f_T — I_C



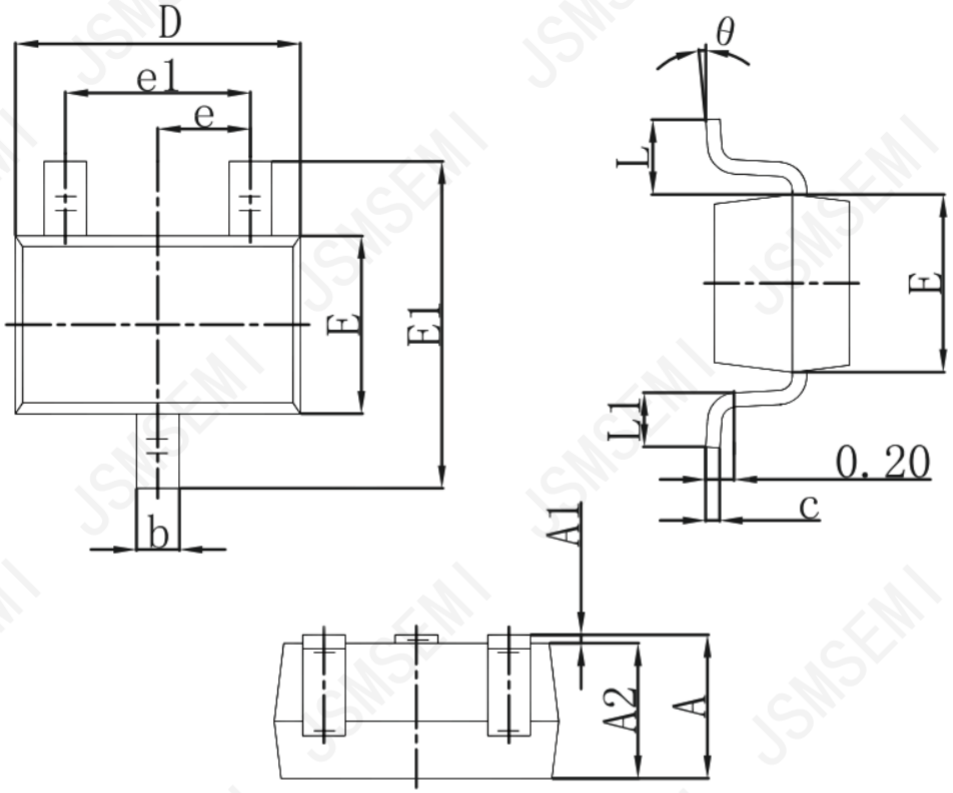
C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_C — T_a



SOT-323 Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	1.350	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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