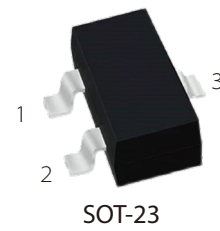


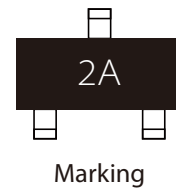
FEATURES

- | Power dissipation of 200mW
- | High stability and high reliability

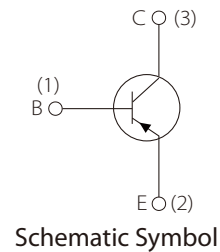


MECHANICAL DATA

- | SOT-23 small outline plastic package
- | Epoxy UL: 94V-0
- | Mounting position: Any



APPROVALS



RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current	I_C	-0.2	A
Collector Power Dissipation	P_C	0.2	W
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Operation Junction and Storage Temperature Range	$T_{J, T_{STG}}$	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

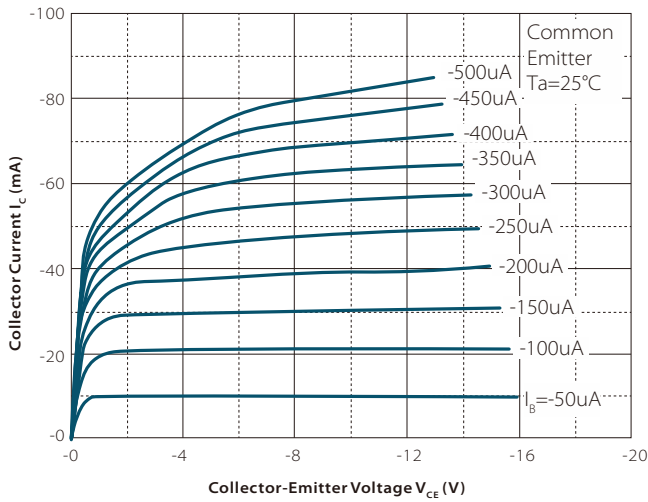
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0	-40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-40			
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-5			
Collector cut-off current	I _{CEX}	V _{CE} =-30V, V _{EB(off)} =-3V			-100	nA
Collector cut-off current	I _{CBO}	V _{CB} =-40V, I _E =0			-50	
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _C =0			-50	
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-emitter saturation 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	
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	
Storage time	t _s	V _{CC} =-3V, I _C =-10mA, I _{B1} =I _{B2} =-1mA			225	
Fall time	t _f	V _{CC} =-3V, I _C =-10mA, I _{B1} =I _{B2} =-1mA			75	

CLASSIFICATION OF H_{FE(1)}

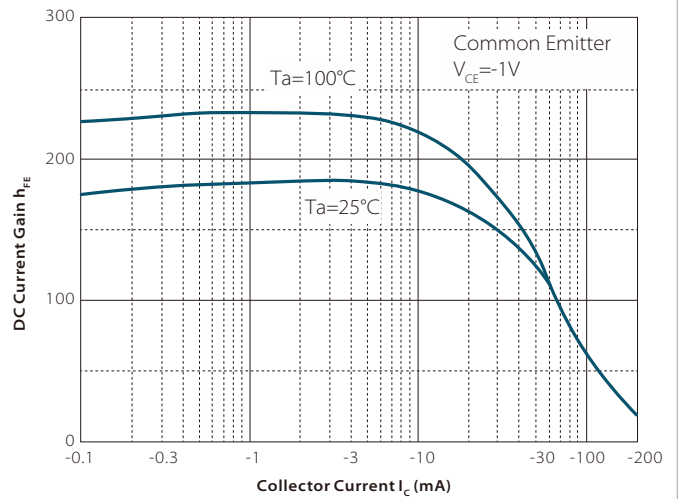
HFE	100-300	
Rank	L	H
Range	100-200	200-300

TYPICAL CHARACTERISTICS

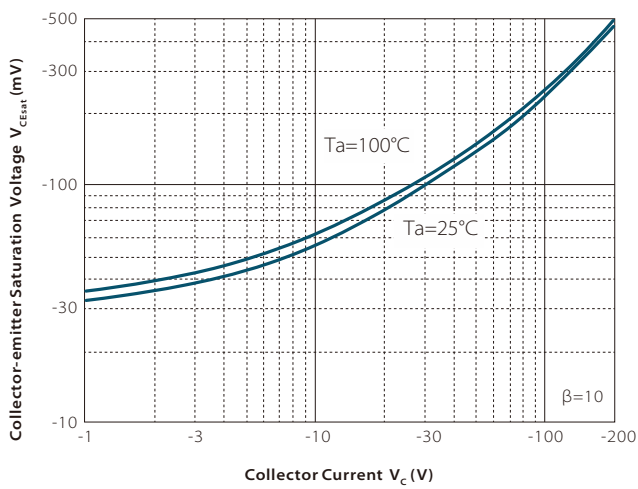
Static Characteristic



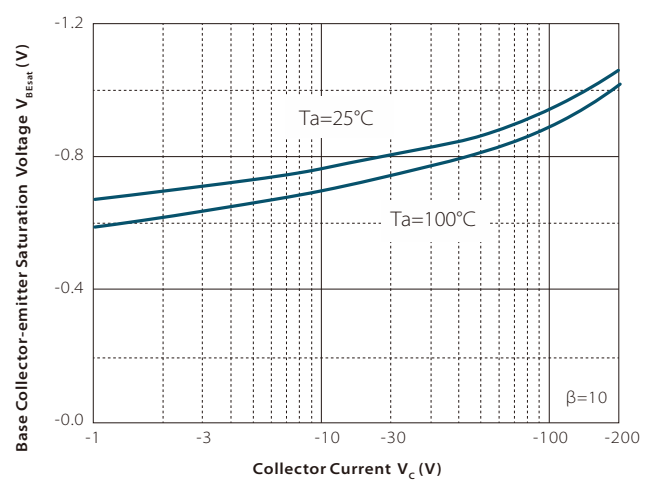
h_{FE} ——— I_C

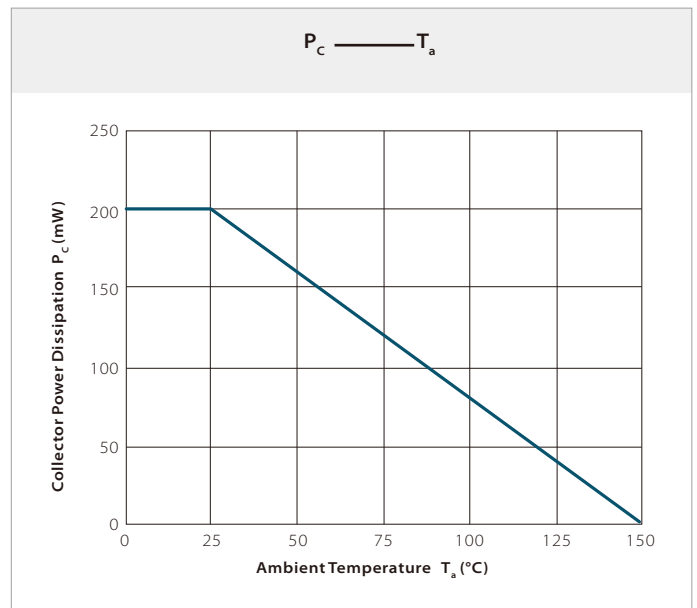
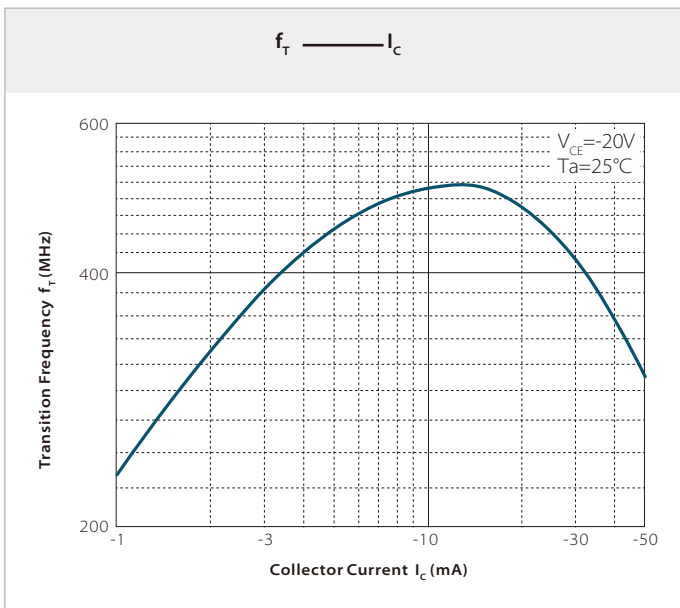
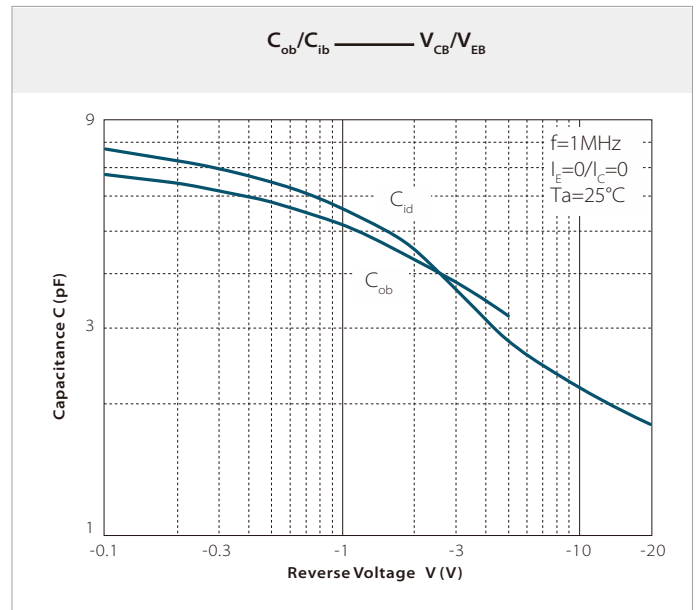
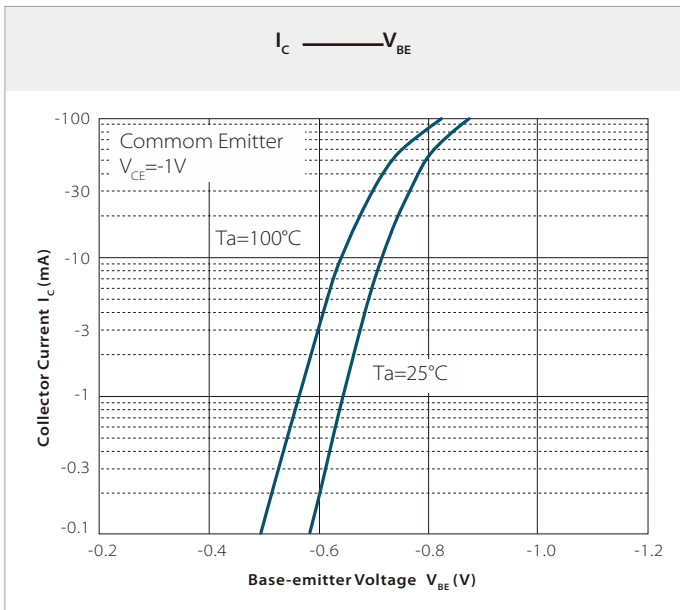


V_{CEsat} ——— I_C

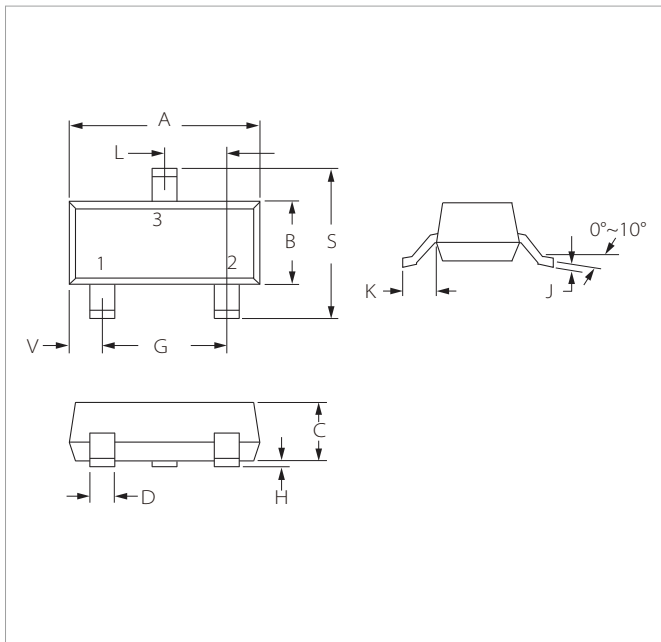


V_{BEsat} ——— I_C



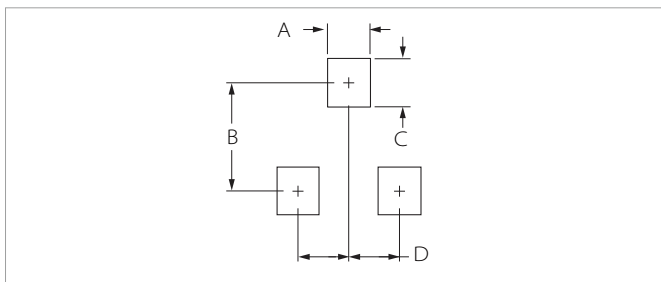


SOT-23 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.01	0.100	0.001	0.004
J	0.085	0.180	0.003	0.007
K	0.35	0.69	0.014	0.029
L	0.89	1.02	0.035	0.040
S	2.10	2.64	0.083	0.104
V	0.45	0.60	0.018	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MMBT3906	SOT-23	3000PCS	7"

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