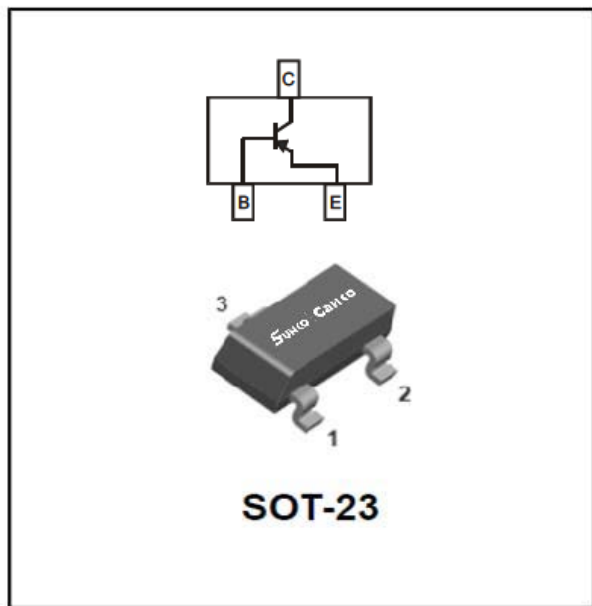


PNP General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisure Sensitivity Level 1
- Marking:2A

■Maximum Rating ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Value
Collector-Emitter Voltage	V_{CEO}	V	-40
Collector-Base Voltage	V_{CBO}	V	-40
Emitter-Base Voltage	V_{EBO}	V	-5.0
Collector Current	I_C	A	-0.2
Collector Power Dissipation	P_C	mW	300
Operation Junction Temperature	T_J	$^{\circ}\text{C}$	-55 to +150
Storage Temperature	T_{stg}	$^{\circ}\text{C}$	-55 to +150

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT3906	F2	Approximate 0.008	3000	30000	120000	7" reel
MMBT3906	F4	Approximate 0.008	10000	/	210000	13" reel

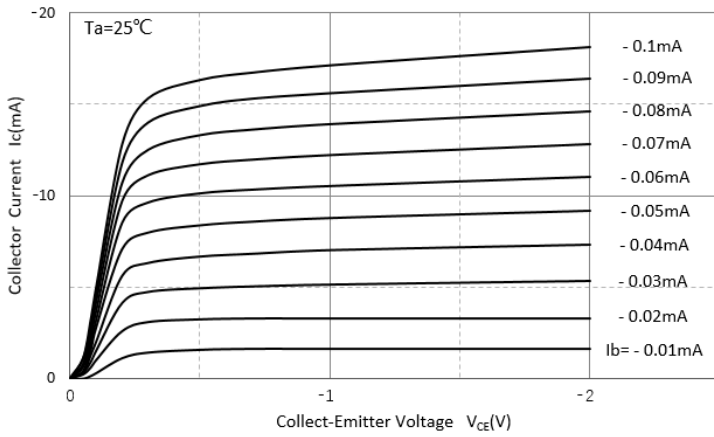
MMBT3906

■Electrical Characteristics (T_a=25℃ Unless otherwise specified)

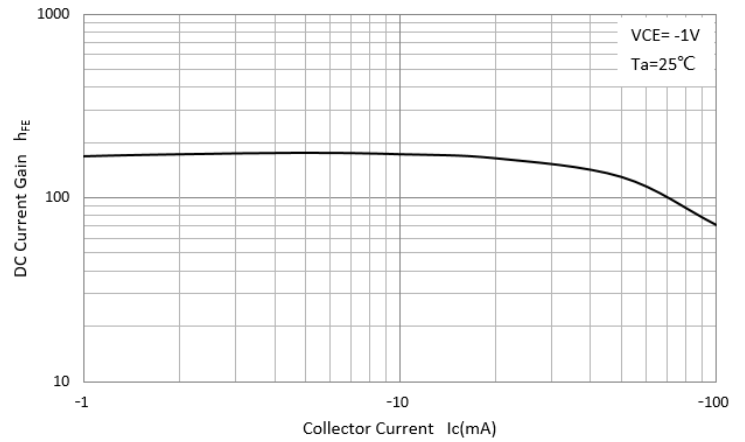
Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Breakdown Voltage	V _{CEO}	Vdc	I _C =-1.0mA, I _B =0	-40	
Collector-Base Breakdown Voltage	V _{CBO}	Vdc	I _C =-10μA, I _E =0	-40	
Emitter-Base Breakdown Voltage	V _{EBO}	Vdc	I _E =-10μA, I _C =0	-5.0	
Collector-base cut-off Current	I _{CBO}	μA	V _{CB} =-40V, I _E =0		-0.1
Collector-emitter cut-off Current	I _{CEX}	nA	V _{CE} =-30V, V _{BE} =-3.0V		-50
Emitter-base cut-off Current	I _{EBO}	μA	V _{EB} =-5V, I _C =0		-0.1
DC Current Gain	h _{FE}		I _C =-10mA, V _{CE} =-1.0V	100	300
			I _C =-50mA, V _{CE} =-1.0V	60	
			I _C =-100mA, V _{CE} =-1.0V	30	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	Vdc	I _C =-10mA, I _B =-1.0mA		-0.25
			I _C =-50mA, I _B =-5.0mA		-0.4
Base-Emitter Saturation Voltage	V _{BE(sat)}	Vdc	I _C =-10mA, I _B =-1.0mA	-0.65	-0.85
			I _C =-50mA, I _B =-5.0mA		-0.95
Collector-base Output Capacitance	C _{obo}	pF	V _{CB} =-5.0V, f=1.0MHz, I _E =0		4.5
Emitter-base Input Capacitance	C _{ibo}	pF	V _{EB} =-0.5V, f=1.0MHz, I _C =0		10
Transition frequency	f _T	MHz	I _C =-10mA, V _{CE} =-20V, f=100MHz	250	
Noise Figure	NF	dB	V _{CE} =-5.0V, f=1.0kHz, I _C =-100μA, R _S =1.0K		4.0
Delay time	t _d	ns	V _{CC} =-3V, V _{BE(off)} =-0.5V, I _C =-10mA, I _{B1} =-1mA		35
Rise time	t _r	ns			35
Storage time	t _s	ns	V _{CC} =-3V, I _C =-10mA, I _{B1} =-I _{B2} =-1mA		225
Fall time	t _f	ns			75

■ Characteristics(Typical)

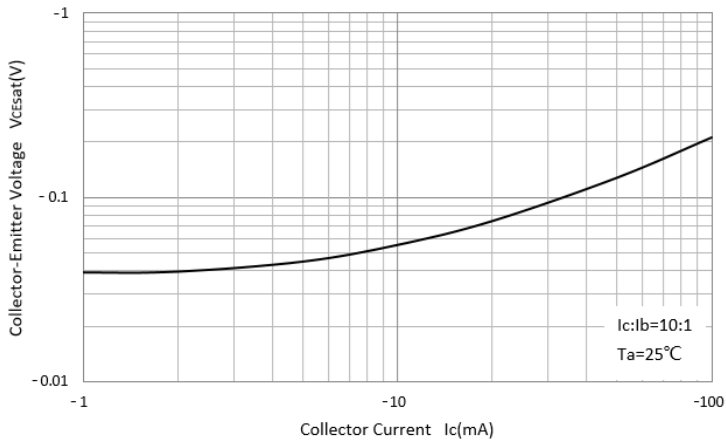
Static Characteristic



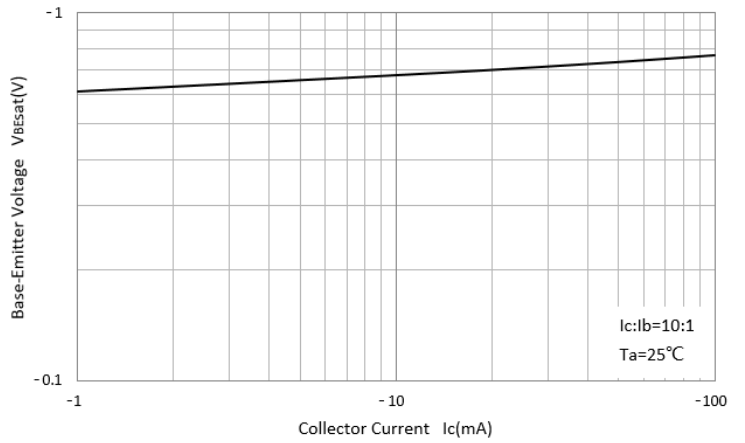
DC Current Gain



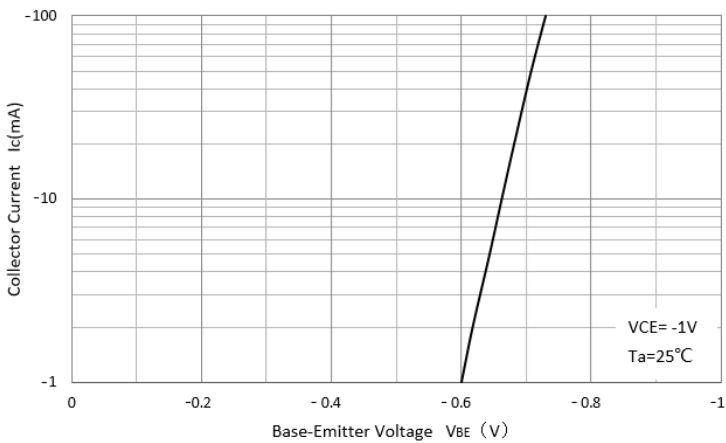
Collector-Emitter Saturation Voltage



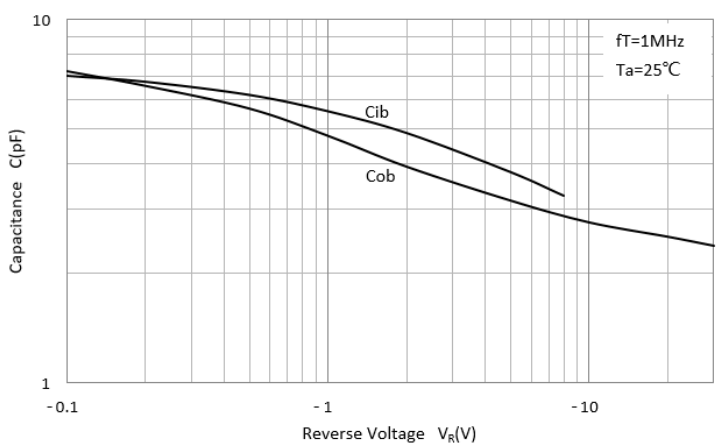
Base-Emitter Saturation Voltage



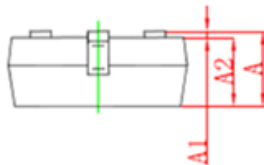
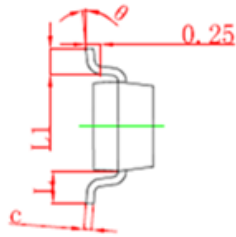
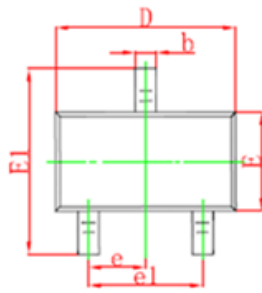
Base-Emitter On Voltage



$C_{ob}/C_{ib}-V_{CB}/V_{EB}$

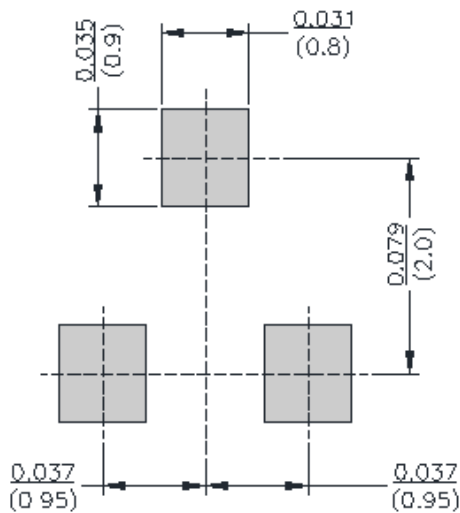


■SOT-23 Package Outline Dimensions

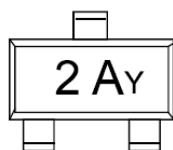


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

■SOT-23 Soldering Footprint



■Marking code



2A = Product Type Marking Code
Y=Date Code Marking

Date code Key (2 years a cycle)

Year	2011											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	J	O	L	C	K	B	P	D	M	E	G	F

Year	2012											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	W	N	Y	T	R	H	A	I	U	X	Z	S

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