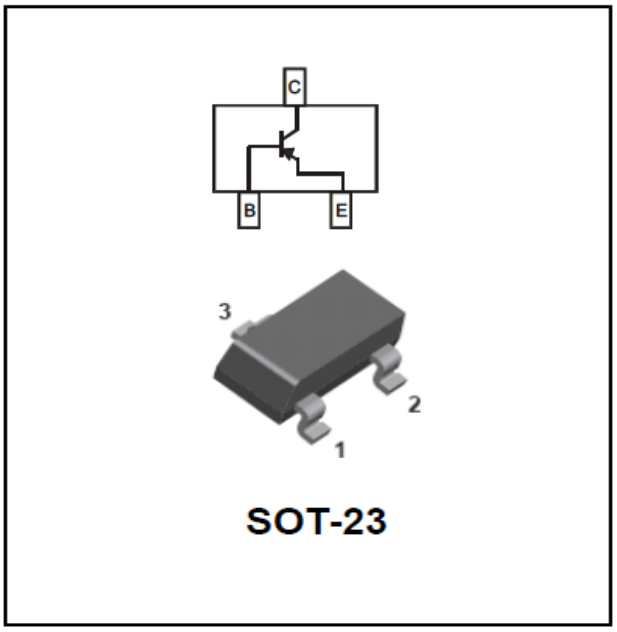
PNP General Purpose Amplifier



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℃ 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	℃	-55 to +150
Storage Temperature	T_{stg}	℃	-55 to +150

■Ordering Information (Example)

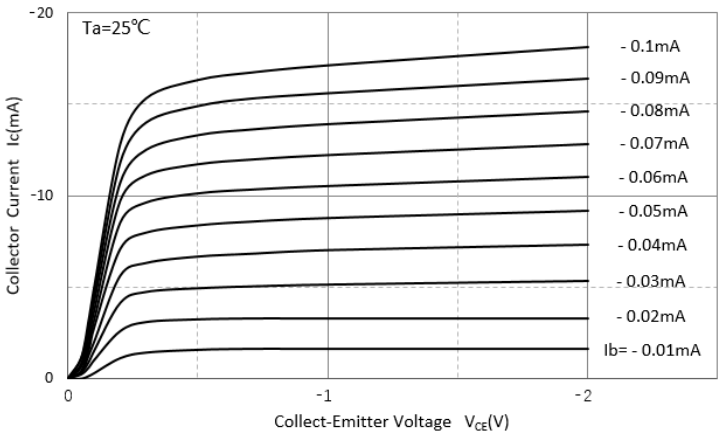
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBT3906	F2	Approximate 0.008	3000	30000	120000	7” reel
MMBT3906	F4	Approximate 0.008	10000	/	210000	13” reel

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

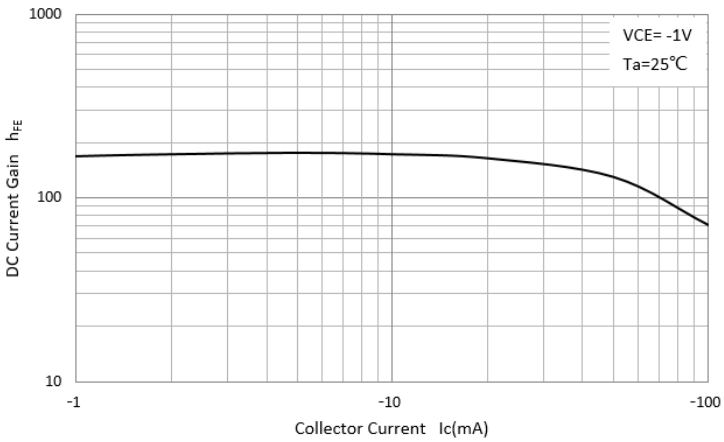
Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Breakdown Voltage	V_{CEO}	Vdc	I_C=-1.0mAdc, I_B=0	-40	
Collector-Base Breakdown Voltage	V_{CBO}	Vdc	I_C=-10uAdc, I_E=0	-40	
Emitter-Base Breakdown Voltage	V_{EBO}	Vdc	I_E=-10uAdc, I_C=0	-5.0	
Collector-base cut-off Current	I_{CBO}	uAdc	V_{CB}=-40Vdc, I_E=0		-0.1
Collector-emitter cut-off Current	I_{CEX}	nAdc	V_{CE}=-30Vdc, V_{BE}=-3.0Vdc		-50
Emitter-base cut-off Current	I_{EBO}	uAdc	V_{EB}=-5Vdc, I_C=0		-0.1
DC Current Gain	h_{FE}		I_C=-10mAdc, V_{CE}=-1.0Vdc	100	300
			I_C=-50mAdc, V_{CE}=-1.0Vdc	60	
			I_C=-100mAdc, V_{CE}=-1.0Vdc	30	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	Vdc	I_C=-10mAdc, I_B=-1.0mAdc		-0.25
			I_C=-50mAdc, I_B=-5.0mAdc		-0.4
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	Vdc	I_C=-10mAdc, I_B=-1.0mAdc	-0.65	-0.85
			I_C=-50mAdc, I_B=-5.0mAdc		-0.95
Collector-base Output Capacitance	C_{obo}	pF	V_{CB}=-5.0Vdc, f=1.0MHz, I_E=0		4.5
Emitter-base Input Capacitance	C_{ibo}	pF	V_{EB}=-0.5Vdc, f=1.0MHz, I_C=0		10
Transition frequency	f_T	MHZ	I_C=-10mAdc,V_{CE}=-20Vdc, f=100MHz	250	
Noise Figure	NF	dB	V_{CE}=-5.0V, f=1.0kHz, I_C=-100uA, R_S=1.0K		4.0
Delay time	td	ns	VCC=-3V, VBE(off)=-0.5V, IC=-10mA,IB1=-1mA		35
Rise time	tr	ns			35
Storage time	ts	ns	VCC=-3V,IC=-10mA, IB1=-IB2=-1mA		225
Fall time	tf	ns			75

■ **Characteristics**(Typical)

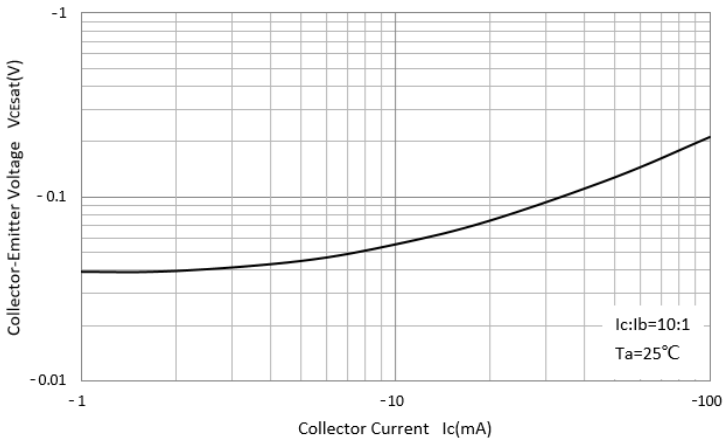
Static Characteristic



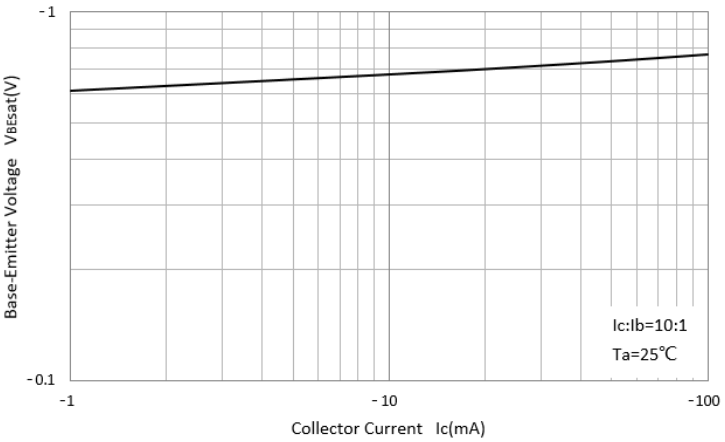
DC Current Gain



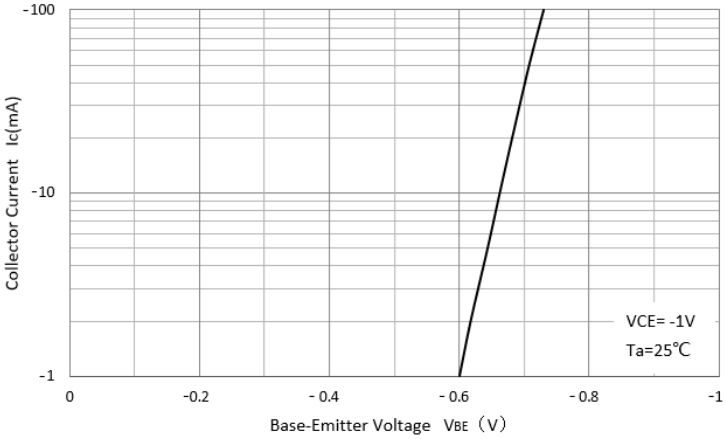
Collector-Emitter Saturation Voltage



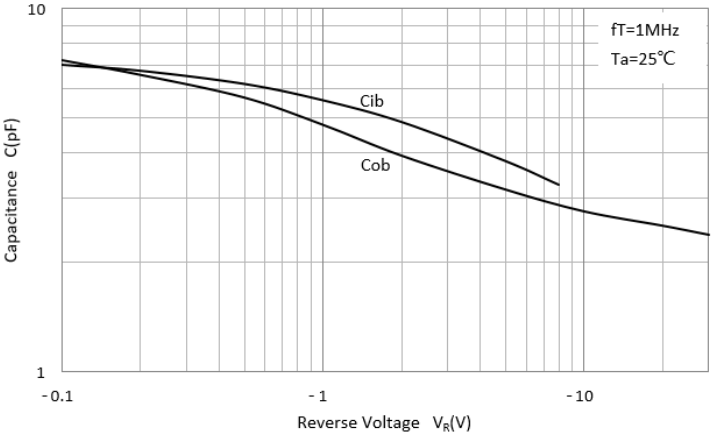
Base-Emitter Saturation Voltage



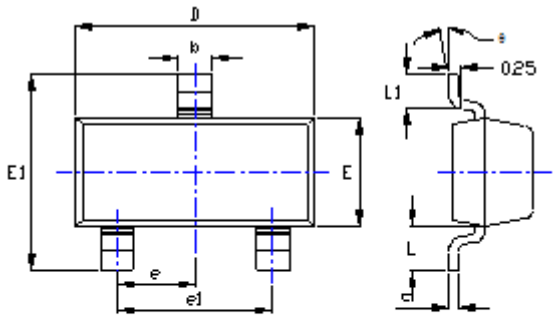
Base-Emitter On Voltage

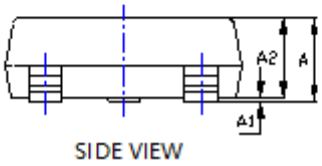


Cob/Cib-V_{CB}/V_{EB}



■SOT-23 Package Outline Dimensions

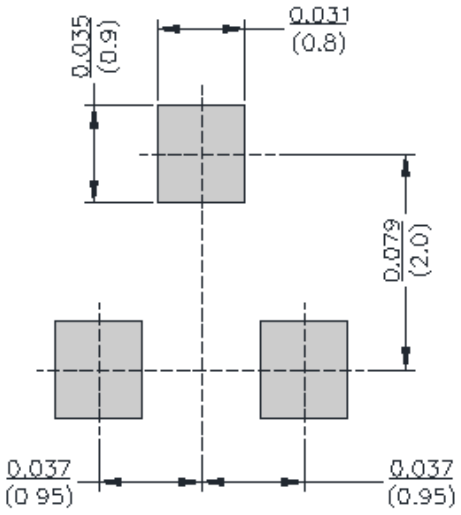




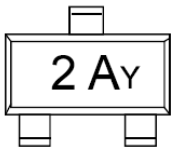
DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
θ	0°	8°	0°	8°

Note:
1. All dimensions are in millimeters (mm) unless otherwise specified.
[所有尺寸均以毫米为单位，除非另有说明]
2. General tolerances: ±0.10mm unless otherwise specified.
[通用公差为±0.10mm，除非另有说明]
3. Dimensions and tolerances per ASME Y14.5M-2018.
[尺寸和公差遵循 ASME Y14.5M-2018 标准]
4.All dimensions shown are exclusive of burrs and gate residues. Burrs and gate vestiges shall not exceed 0.15 mm in maximum.
[所有尺寸均不包括毛刺和浇口残留。毛刺与浇口残留的尺寸最大不得超过 0.15mm]
5.Dimension b does not include dambar protrusion of max 0.100 mm per side.
[尺寸b不包括单边最大0.100 MM的中筋凸出部分]
6.Dimensions D and E are the overall extreme outer dimensions of the mold compound. These dimensions exclude mold flash, lead flash, protrusions and burrs but include the maximum allowable mold mismatch.
[D和E是塑封体的外部极限尺寸，不包括包封溢料、内引线溢料、凸出部分以及胶体毛刺，但是包含了包封错位的最大尺寸]
7.Formed leads shall be planar with respect to one another within a maximum of 0.076 mm relative to the seating plane.
[成型的管脚应为同一平面，共面性最大为0.1mm]

■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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