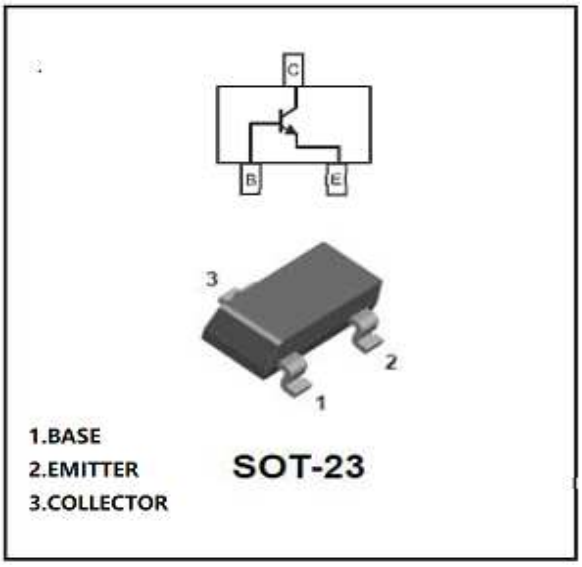
NPN General Purpose Amplifier transistors



Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- High Conductance
- Surface Mount Package Ideally Suited for Automatic Insertion

Mechanical Data

- **Package**: SOT-23
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**

MMBTA05	1H
MMBTA06	1GM

■Maximum Ratings (Ta=25℃ unless otherwise noted)

Item	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO} MMBTA05 MMBTA06	60 80	V
Collector-Emitter Voltage	V_{CEO} MMBTA05 MMBTA06	60 80	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Operation Junction Temperature	T_j	-55 to +150	℃
Storage Temperature	T_{stg}	-55 to +150	℃

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

Item	Symbol	Unit	Conditions	Min	Max
Collector-base breakdown voltage	V_{CBO}	V	IC=100μA,IE=0 MMBTA05 MMBTA06	 60 80	
Collector-emitter breakdown voltage	V_{CEO}	V	IC =1mA,IB=0 MMBTA05 MMBTA06	 60 80	
Emitter-base breakdown voltage	V_{EBO}	V	IE=100μA,IC=0	4	
Collector-base cut-off current	I_{CBO}	nA	VCB=60V,IE=0		100
Collector-emitter cut-off current	I_{CEO}	nA	VCE=60V,IB=0		100
Emitter-base cut-off current	I_{EBO}	nA	VEB=3V,IC=0		100
DC current gain	h_{FE}		VCE=1V,IC=10mA	100	400
	h_{FE}		VCE=1V,IC=100mA	100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	IC=100mA,IB=10mA		0.25
Base-emitter saturation voltage	$V_{BE(sat)*}$	V	IC=100mA,IB=10mA		1.2

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

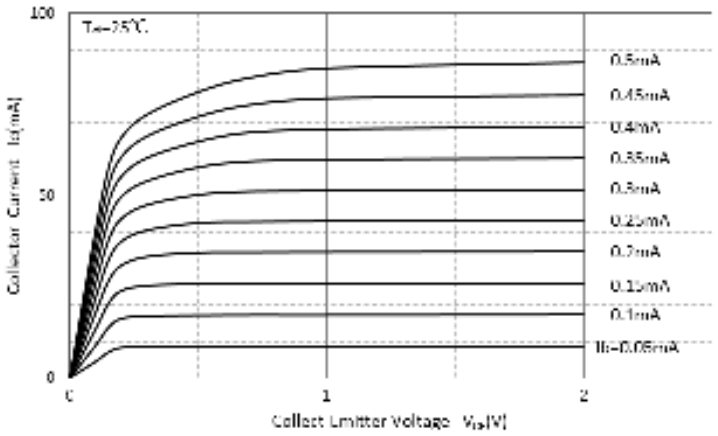
Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	Ft	MHz	VCE=2V,IC=10mA,f=100MHz	100	

■Ordering Information (Example)

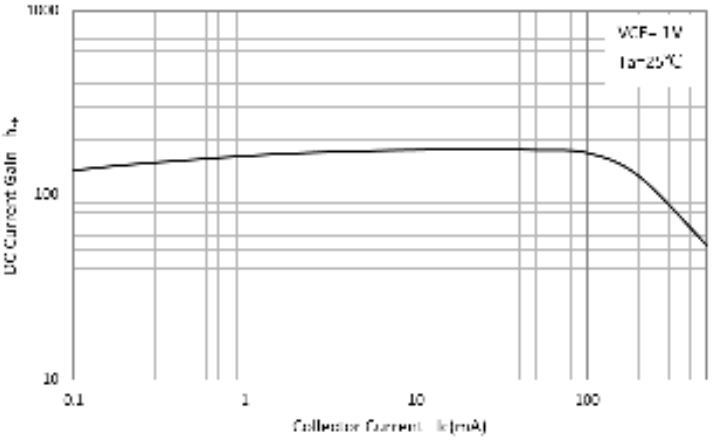
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBTA05 MMBTA06	F2	Approximate 0.008	3000	30000	120000	7” reel

■**Characteristics**(Typical)

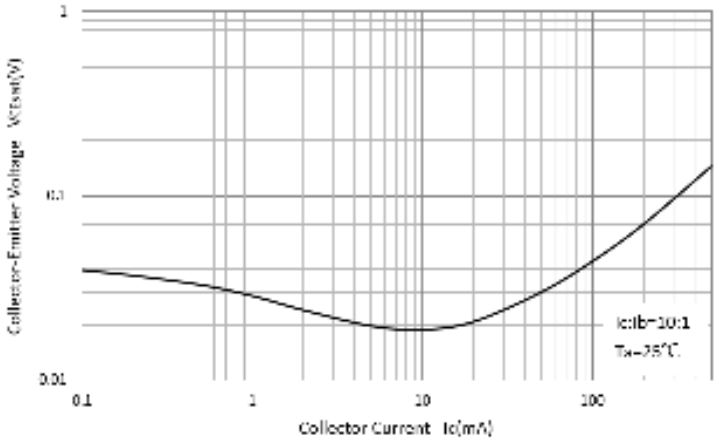
Static Characteristic



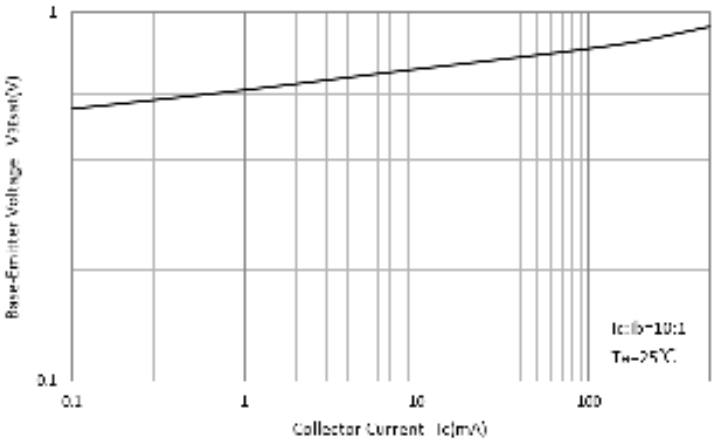
DC Current Gain



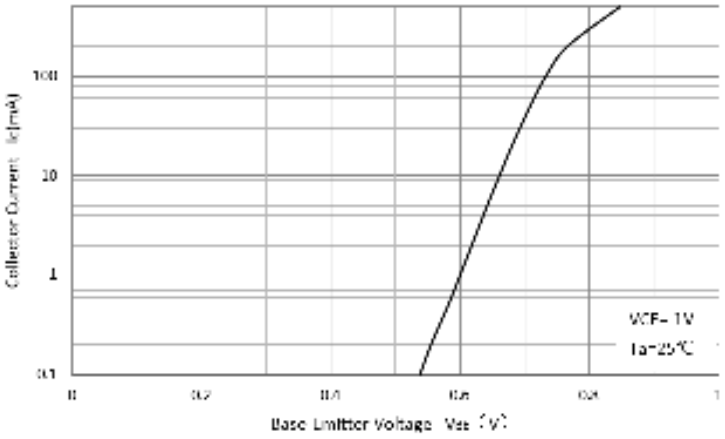
Collector-Emitter Saturation Voltage



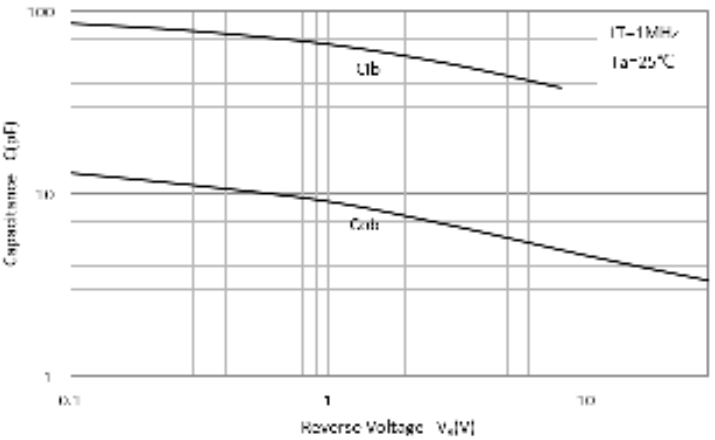
Base-Emitter Saturation Voltage



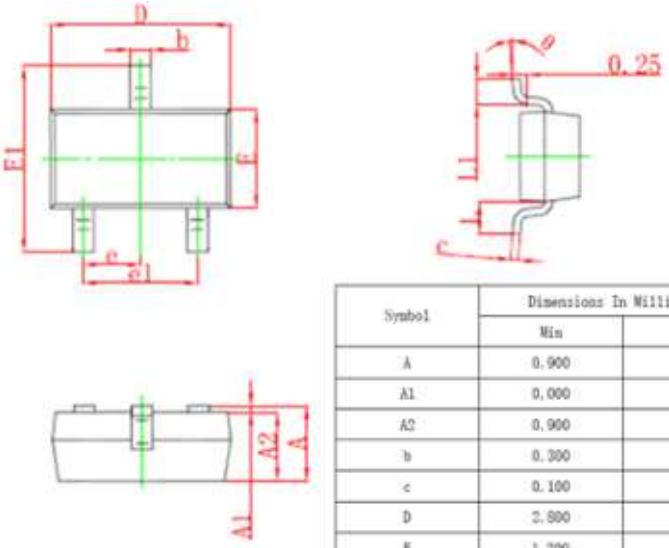
Base-Emitter On Voltage



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

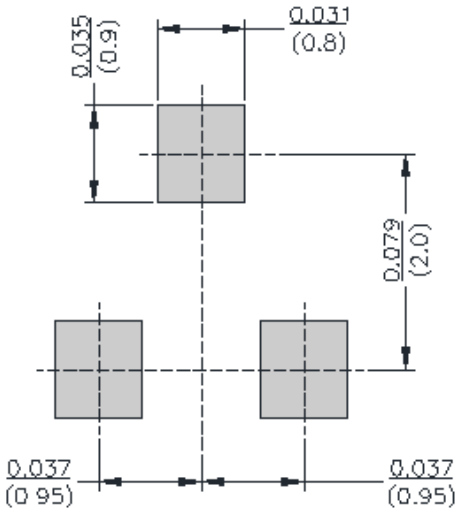


■SOT-23 Package Outline Dimensions



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



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