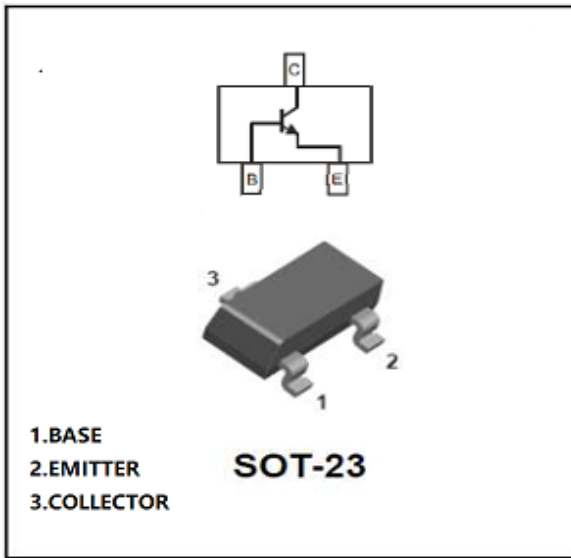


## NPN General Purpose Amplifier transistors



### Features

- Epoxy meets UL-94 V-0 flammability rating
- 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°C unless otherwise noted)

Item	Symbol	Rating	Unit
Collector-Base Voltage	VCBO MMBTA05 MMBTA06	60 80	V
Collector-Emitter Voltage	VCEO MMBTA05 MMBTA06	60 80	V
Emitter-Base Voltage	VEBO	4	V
Collector Current -Continuous	IC	500	mA
Total Device Dissipation	PC	300	mW
Junction Temperature	Tj	-55 to +150	°C
Storage Temperature	TSTG	-55 to +150	°C



# MMBTA05 THRU MMBTA06

RoHS  
COMPLIANT

## ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Max
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	V	IC=100μA,IE=0 MMBTA05 MMBTA06	60 80	
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	V	IC=1mA,IB=0 MMBTA05 MMBTA06	60 80	
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	V	IE=100μA,IC=0	4	
Collector cut-off current	I <sub>CBO</sub>	nA	V <sub>CB</sub> =60V,IE=0		100
Collector cut-off current	I <sub>CEO</sub>	nA	V <sub>CE</sub> =60V,IB=0		100
Collector cut-off current	I <sub>EBO</sub>	nA	VEB=3V,IC=0		100
DC current gain	h <sub>FE</sub>		V <sub>CE</sub> =1V,IC=10mA	100	400
	h <sub>FE</sub>		V <sub>CE</sub> =1V,IC=100mA	100	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	V	IC=100mA,IB=10mA		0.25
Base-emitter saturation voltage	V <sub>BE(sat)*</sub>	V	IC=100mA,IB=10mA		1.2

## ■Other Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

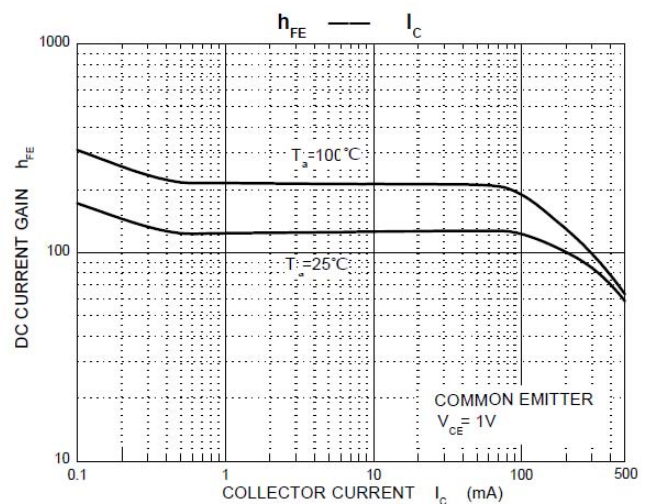
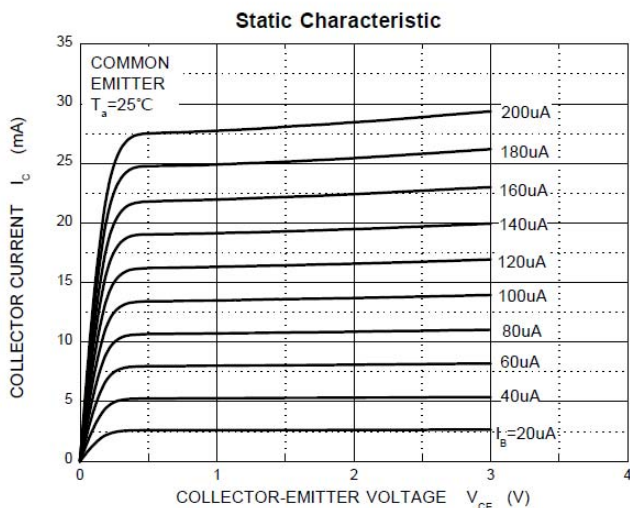
Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	F <sub>t</sub>	MHz	V <sub>CE</sub> =2V,IC=10mA,f=100MHz	100	

## ■Ordering Information (Example)

PREFERRED 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)

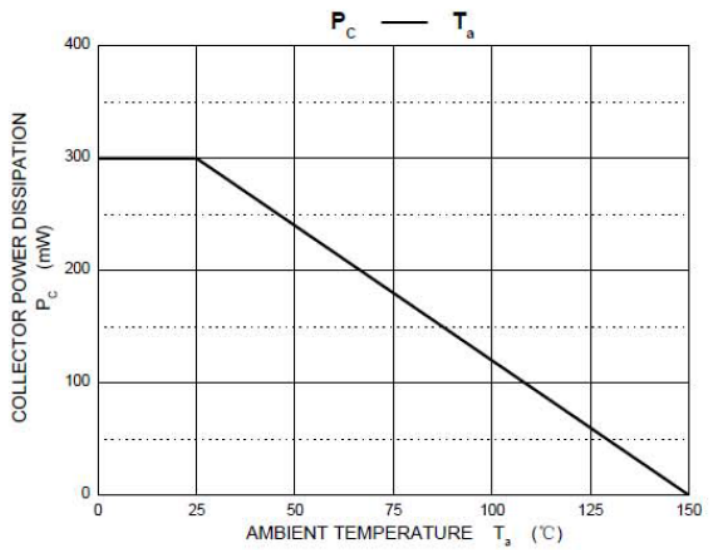
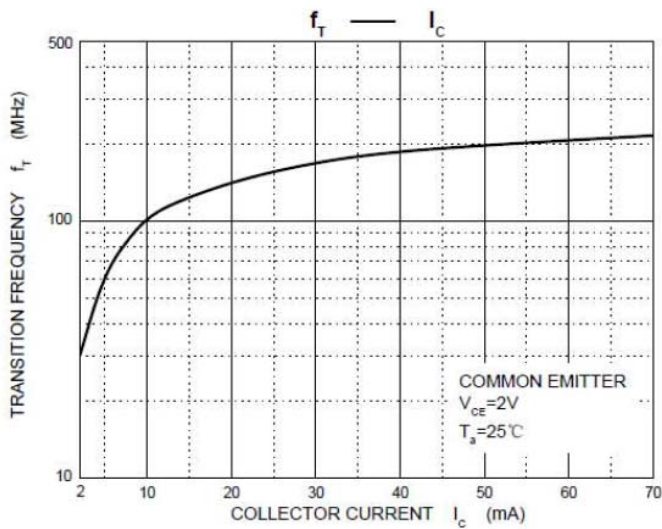
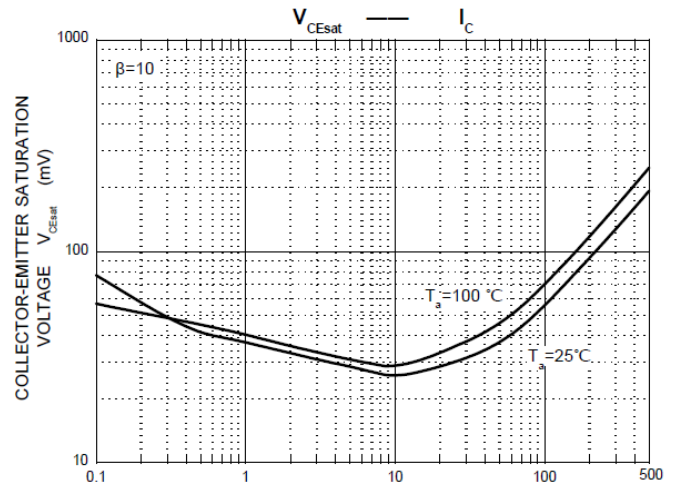
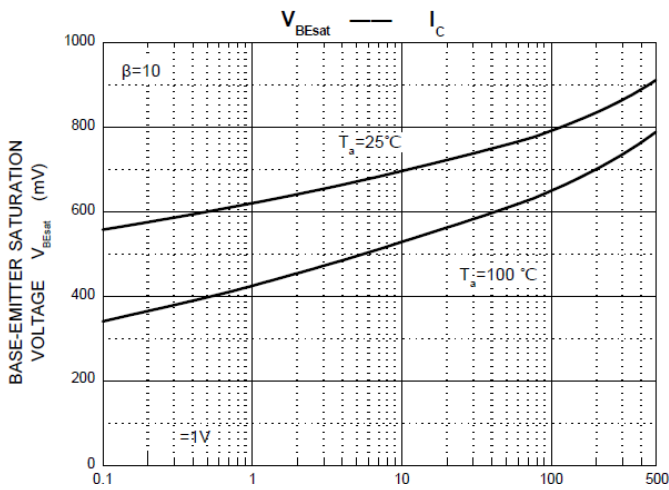
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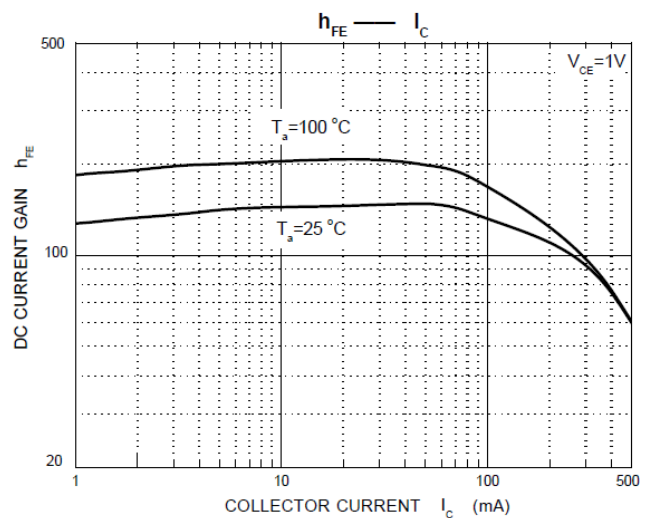
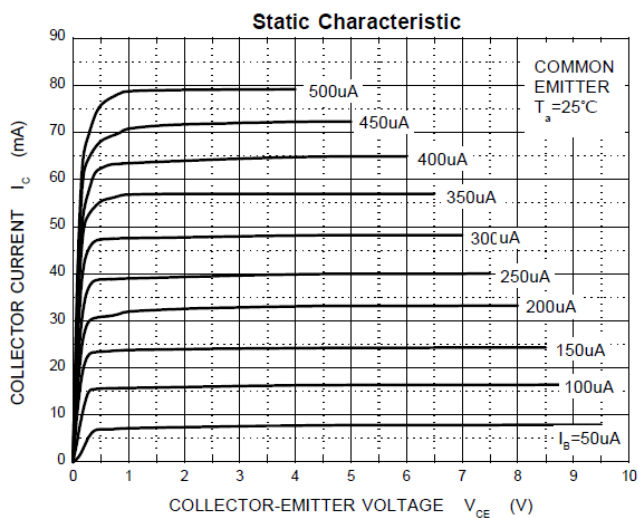


# MMBTA05 THRU MMBTA06

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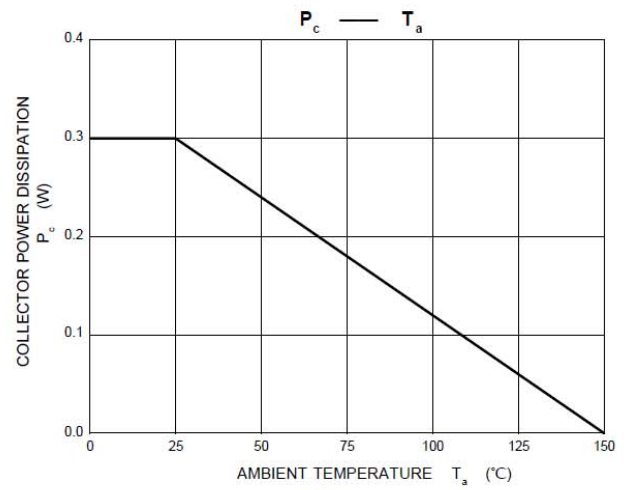
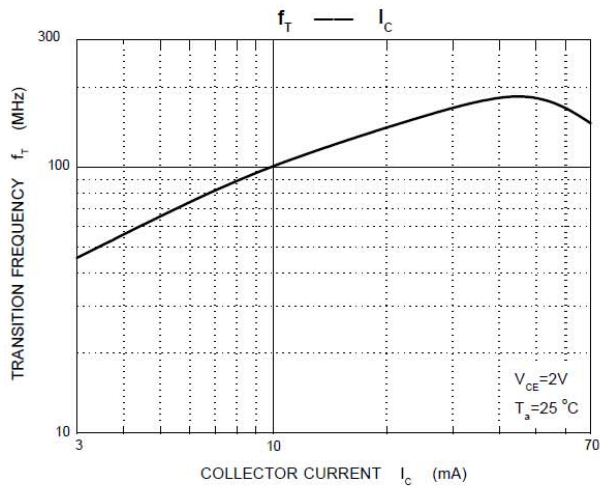
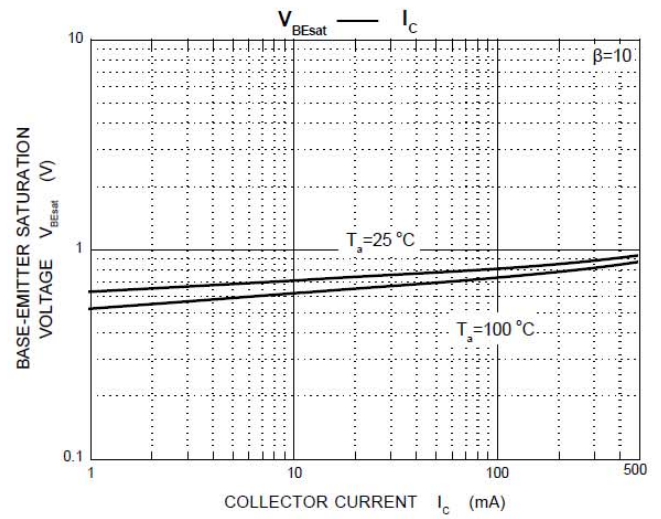
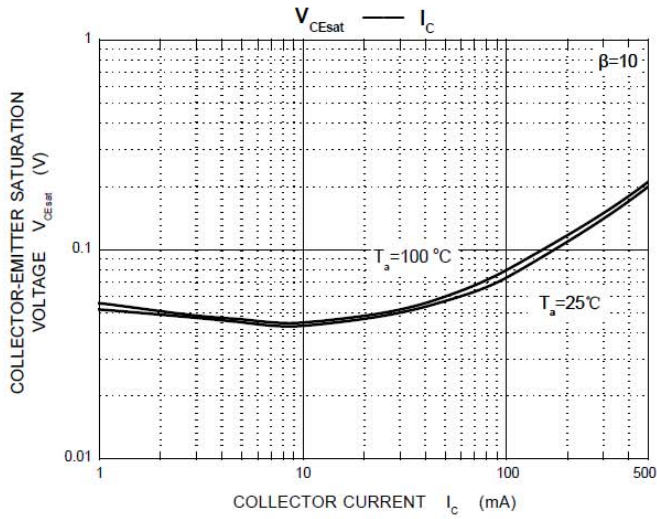
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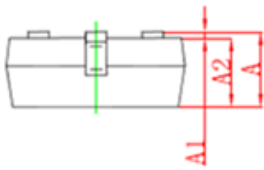
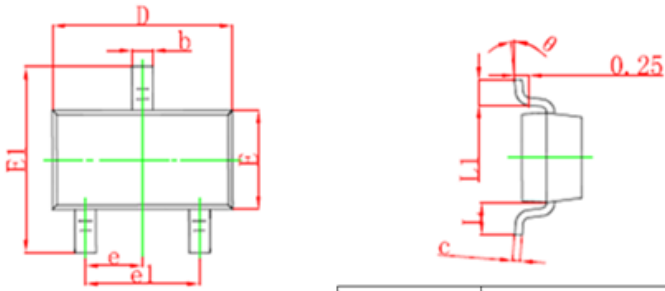
# MMBTA05 THRU MMBTA06

RoHS  
COMPLIANT



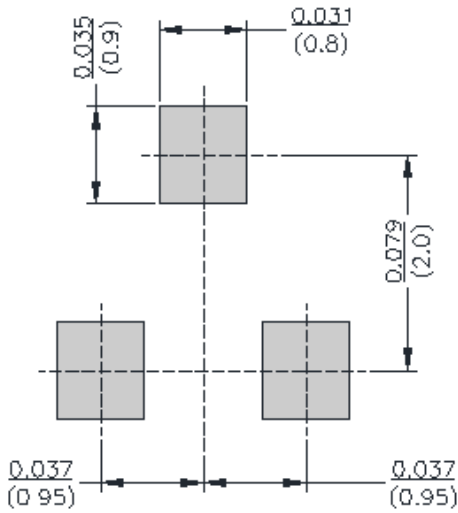


## ■SOT-23 Package Outline Dimensions



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-23Suggested Pad Layout





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