



Micro Commercial Components



Micro Commercial Components  
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# MMBTA05 THRU MMBTA06

## Features

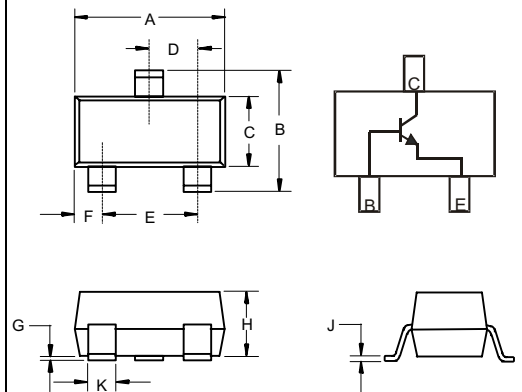
- Halogen free available upon request by adding suffix "-HF"
- Epitaxial Planar Die Construction
- Complementary PNP Types Available (MMBTA55/MMBTA56)
- Ideal for Medium Power Amplification and Switching.
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: MMBTA05:1H/K1H  
MMBTA06:1GM/K1G

## Maximum Ratings

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage MMBTA05 MMBTA06	60 80	V
V <sub>CBO</sub>	Collector-Base Voltage MMBTA05 MMBTA06	60 80	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Collector Current-Continuous	500	mA
P <sub>D</sub>	Power Dissipation*	300	mW
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	417	°C/W
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

## NPN Small Signal General Purpose Amplifier Transistors

### SOT-23

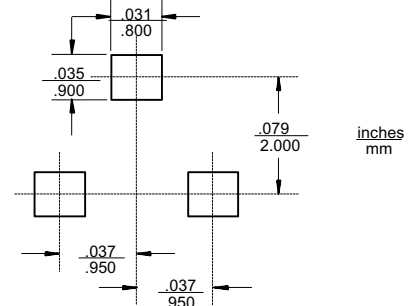


## Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage (I <sub>C</sub> =1.0mA, I <sub>B</sub> =0)	60 80	---	Vdc
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage (I <sub>C</sub> =0.1mA, I <sub>E</sub> =0)	60 80	---	Vdc
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage (I <sub>E</sub> =100μA, I <sub>C</sub> =0)	4.0	---	Vdc
I <sub>CBO</sub>	Collector Cutoff Current (V <sub>CB</sub> =60Vdc, I <sub>E</sub> =0) MMBTA05 (V <sub>CB</sub> =80Vdc, I <sub>E</sub> =0) MMBTA06	---	0.1	μA
I <sub>CEO</sub>	Collector Cutoff Current (V <sub>CE</sub> =60Vdc, I <sub>B</sub> =0)	---	1.0	μA
I <sub>EBO</sub>	Emitter Cutoff Current (V <sub>EB</sub> =3Vdc, I <sub>C</sub> =0)	---	0.1	μA
h <sub>FE</sub>	DC Current Gain (V <sub>CE</sub> =1.0Vdc, I <sub>C</sub> =10mA) (V <sub>CE</sub> =1.0Vdc, I <sub>C</sub> =100mA)	100 100	400 ---	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage (I <sub>C</sub> =100mA, I <sub>B</sub> =10mA)	---	0.25	Vdc
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage (I <sub>C</sub> =100mA, I <sub>B</sub> =10mA)	---	1.2	Vdc
f <sub>T</sub>	Transition frequency (I <sub>C</sub> =10mA, V <sub>CE</sub> =2.0Vdc, f=100MHz)	100	---	MHz

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

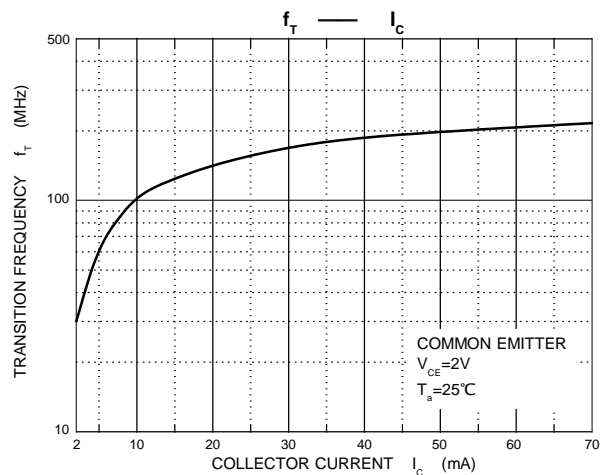
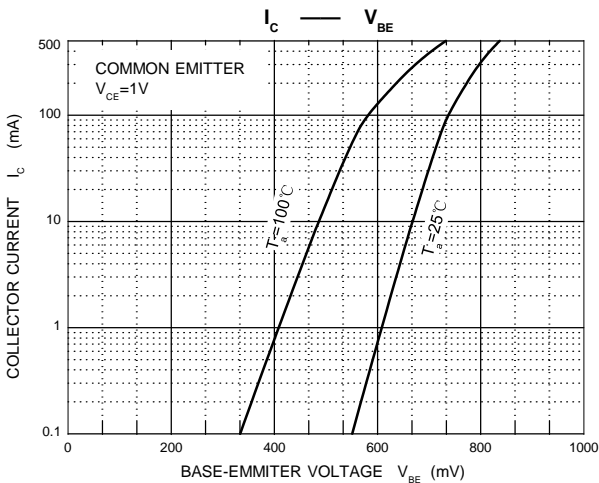
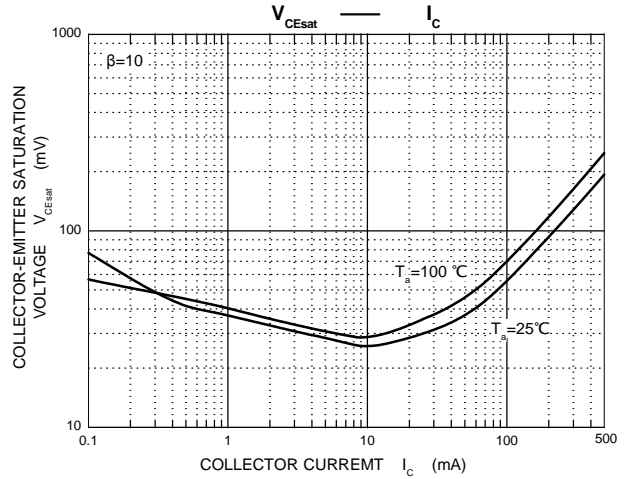
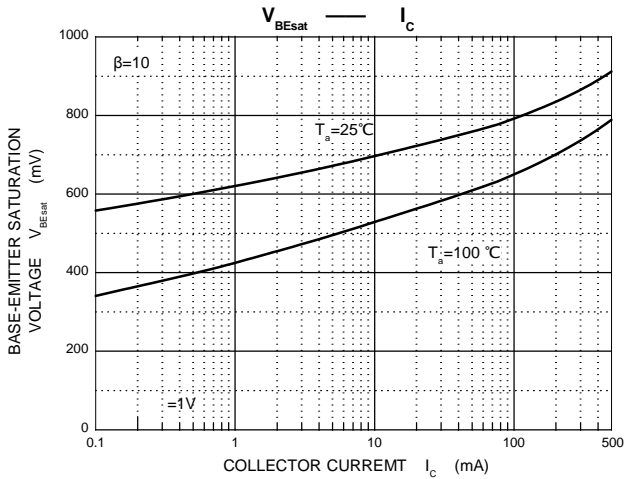
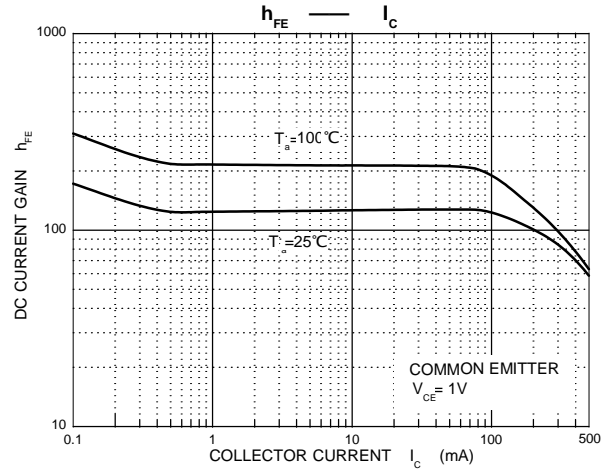
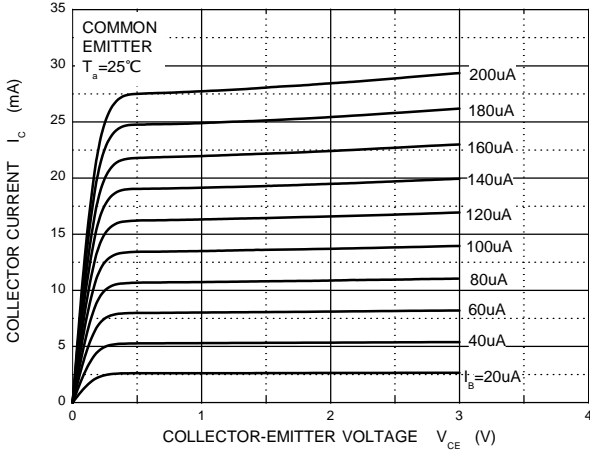
### Suggested Solder Pad Layout



# MMBTA05

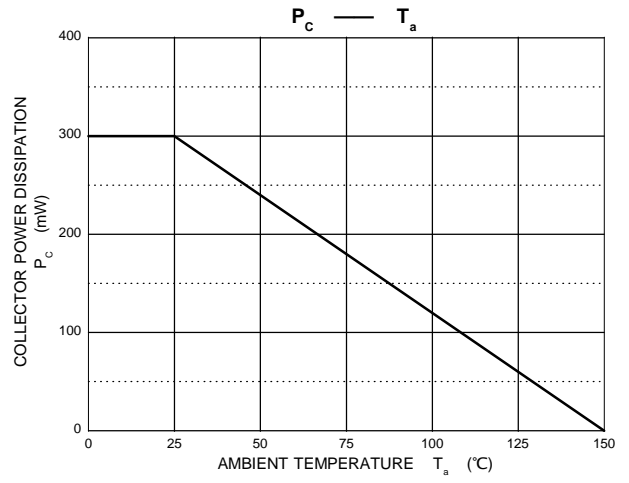
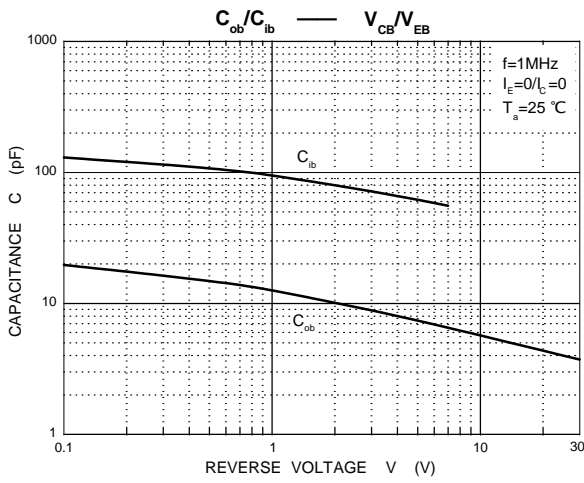
## Typical Characteristics

Static Characteristic



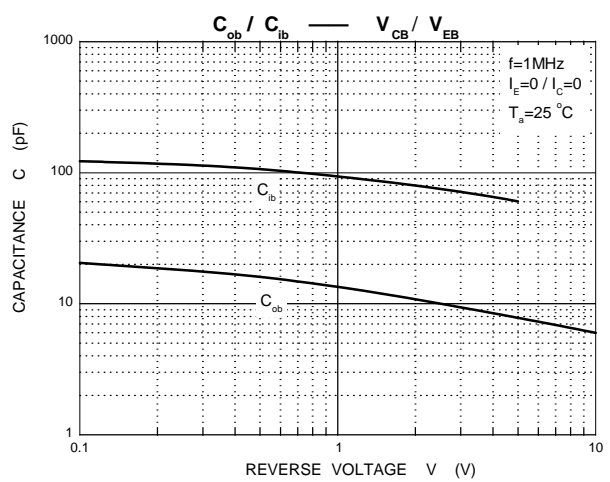
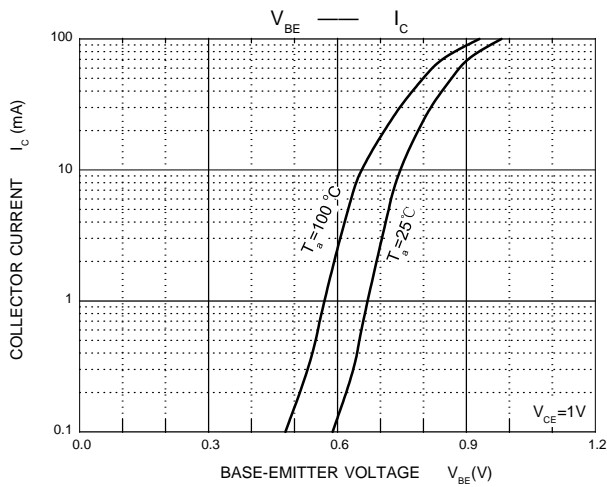
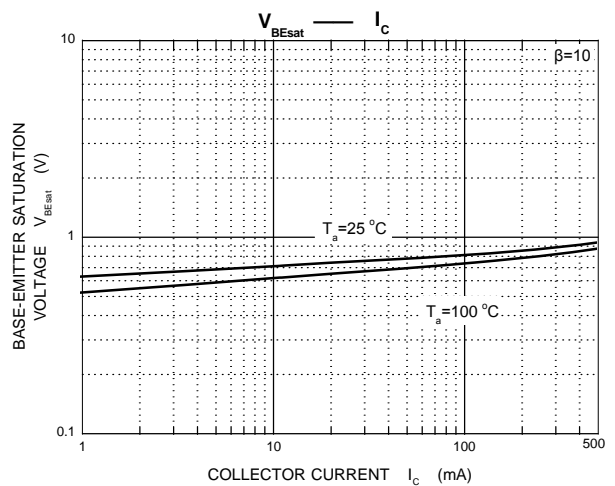
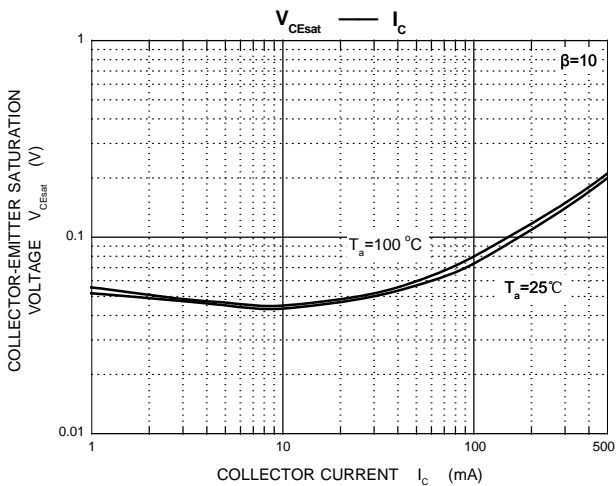
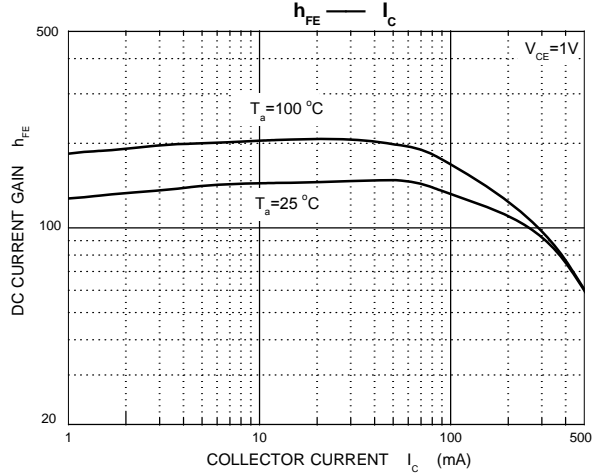
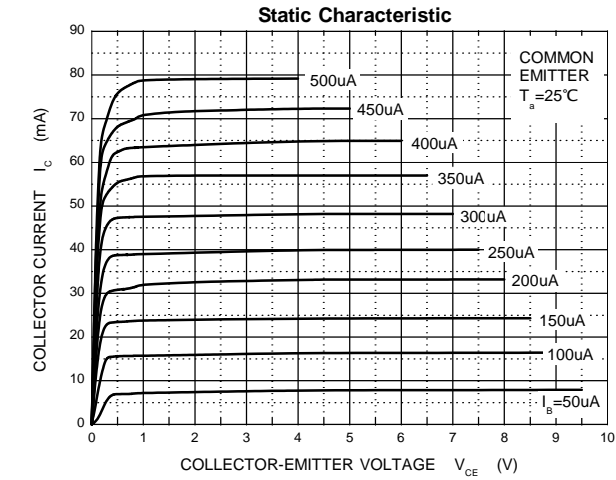
# MMBTA05

## Typical Characteristics



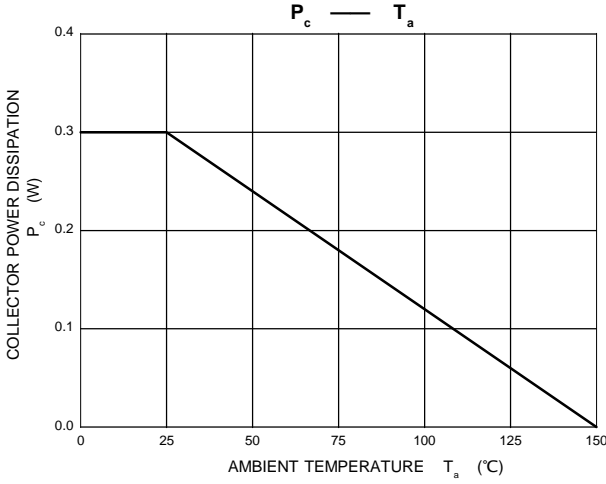
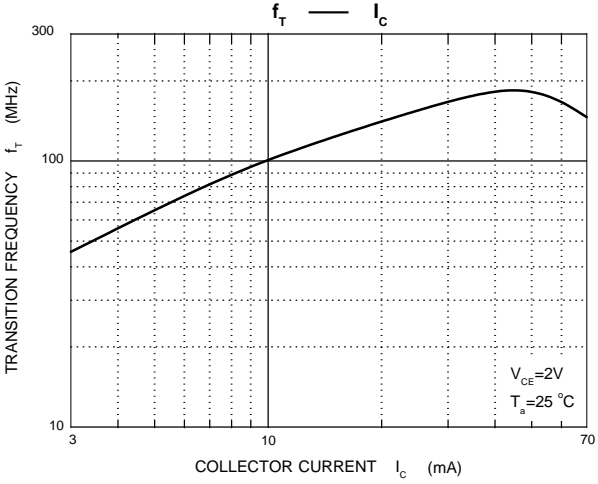
# MMBTA06

## Typical characteristics



**MMBTA06**

**Typical characteristics**





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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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