



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

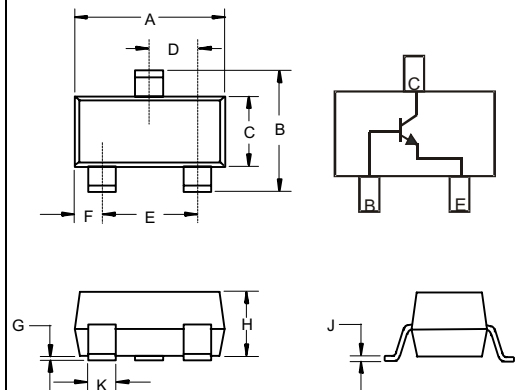
Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage MMBTA05 MMBTA06	60 80	V
V_{CBO}	Collector-Base Voltage MMBTA05 MMBTA06	60 80	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Collector Current-Continuous	500	mA
P_D	Power Dissipation*	300	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	417	$^{\circ}\text{C/W}$
T_J	Operating Junction Temperature	-55 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics @ 25 $^{\circ}\text{C}$ Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=1.0\text{mA}$, $I_B=0$) MMBTA05 MMBTA06	60 80	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=0.1\text{mA}$, $I_E=0$) MMBTA05 MMBTA06	60 80	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=100\mu\text{A}$, $I_C=0$)	4.0	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=60\text{Vdc}$, $I_E=0$) MMBTA05 ($V_{CB}=80\text{Vdc}$, $I_E=0$) MMBTA06	---	0.1 0.1	μAdc
I_{CEO}	Collector Cutoff Current ($V_{CE}=60\text{Vdc}$, $I_B=0$)	---	1.0	μAdc
I_{EBO}	Emitter Cutoff Current ($V_{EB}=3\text{Vdc}$, $I_C=0$)	---	0.1	μAdc
h_{FE}	DC Current Gain ($V_{CE}=1.0\text{Vdc}$, $I_C=10\text{mA}$) ($V_{CE}=1.0\text{Vdc}$, $I_C=100\text{mA}$)	100 100	400 ---	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=10\text{mA}$)	---	0.25	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=10\text{mA}$)	---	1.2	Vdc
f_T	Transition frequency ($I_C=10\text{mA}$, $V_{CE}=2.0\text{Vdc}$, $f=100\text{MHz}$)	100	---	MHz

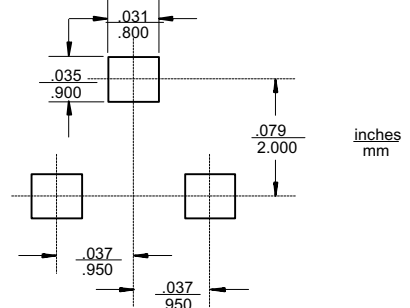
NPN Small Signal General Purpose Amplifier Transistors

SOT-23



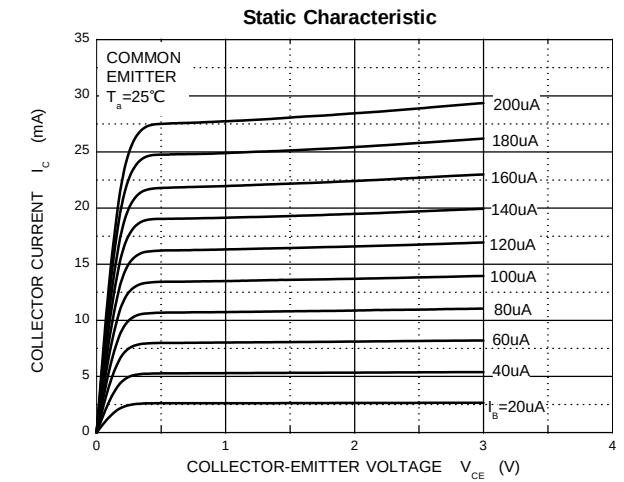
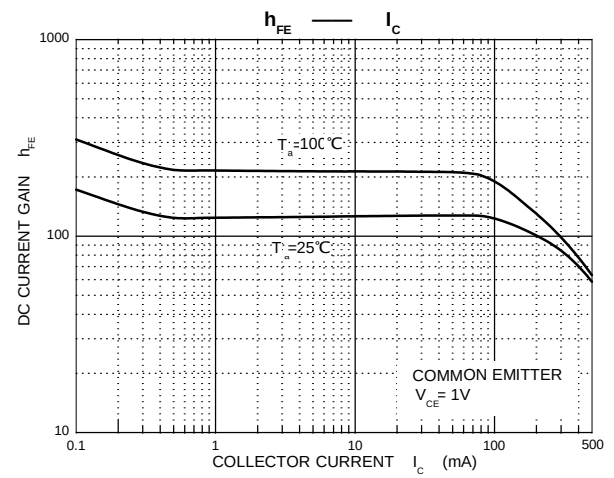
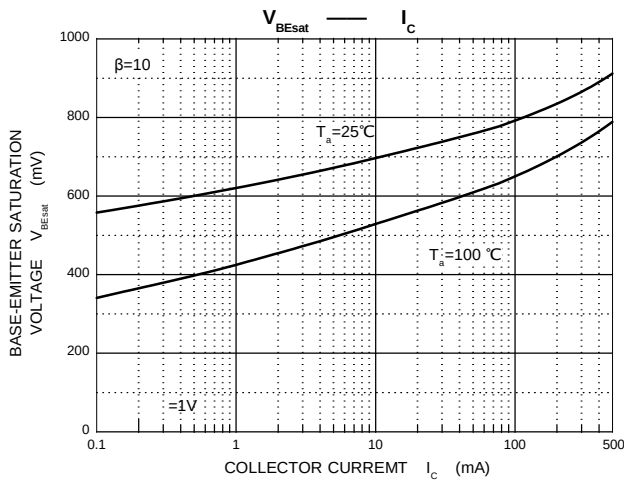
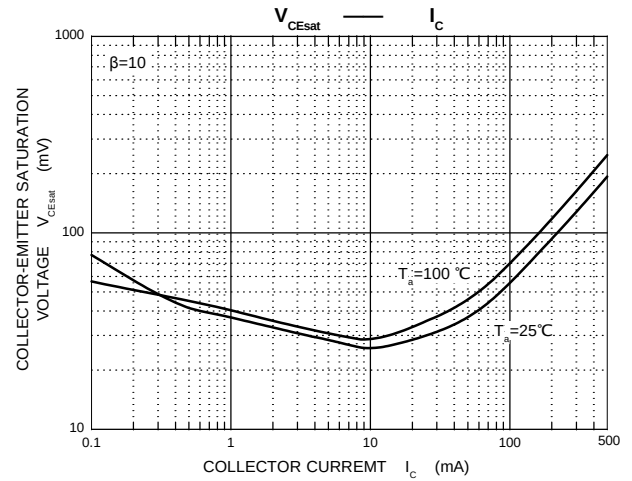
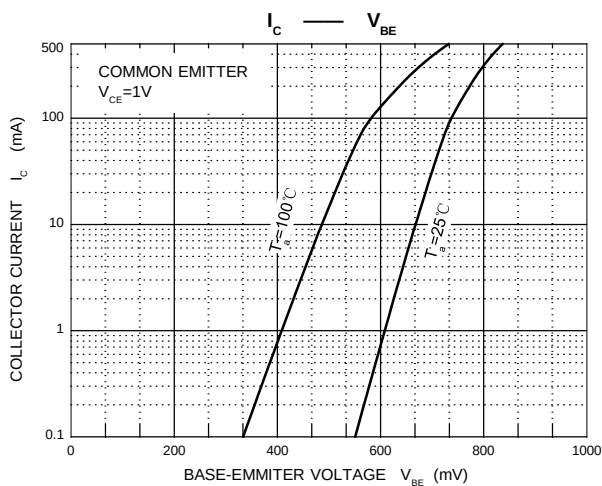
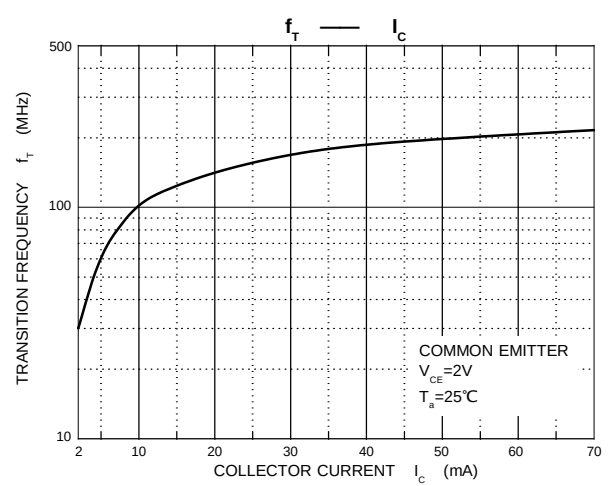
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



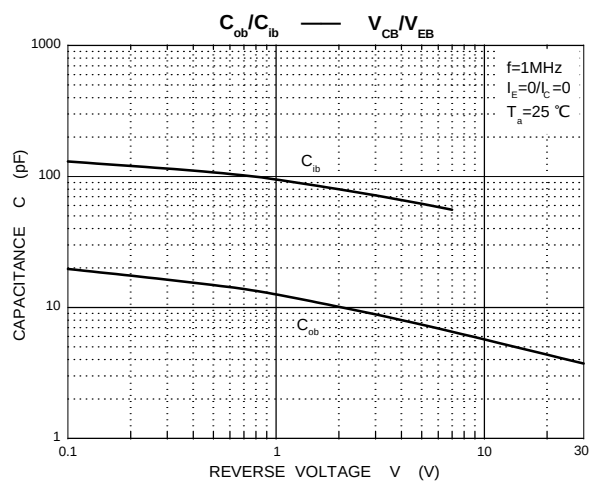
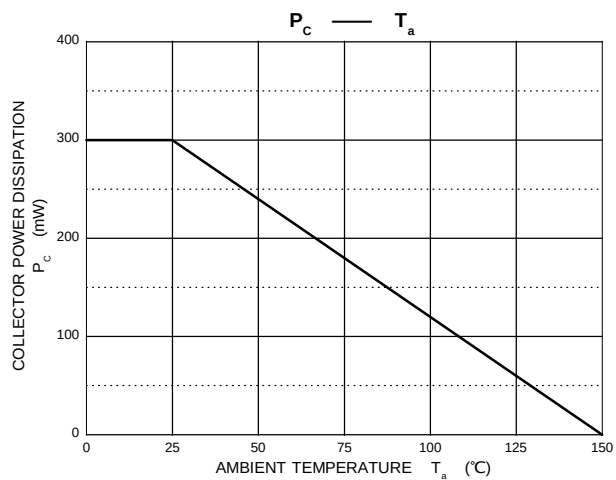
MMBTA05

Typical Characteristics



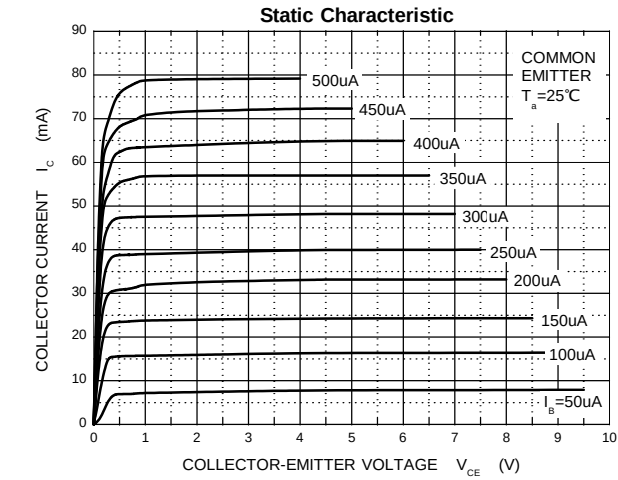
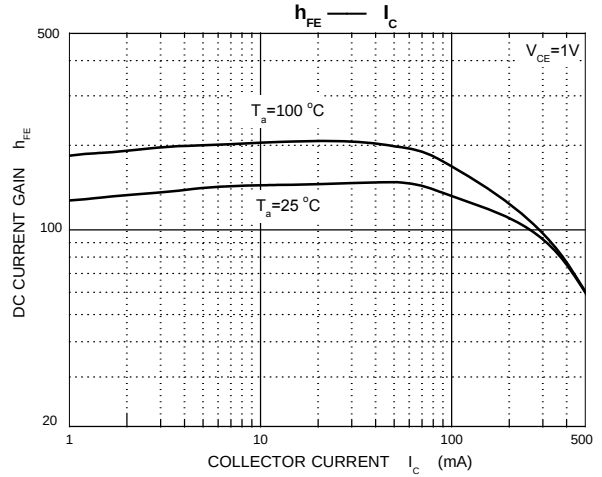
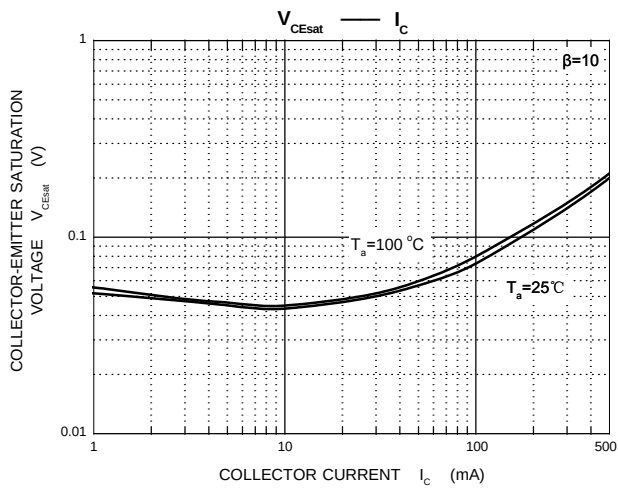
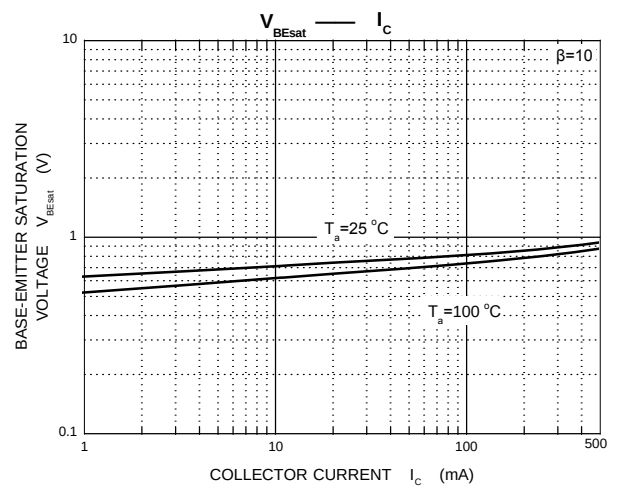
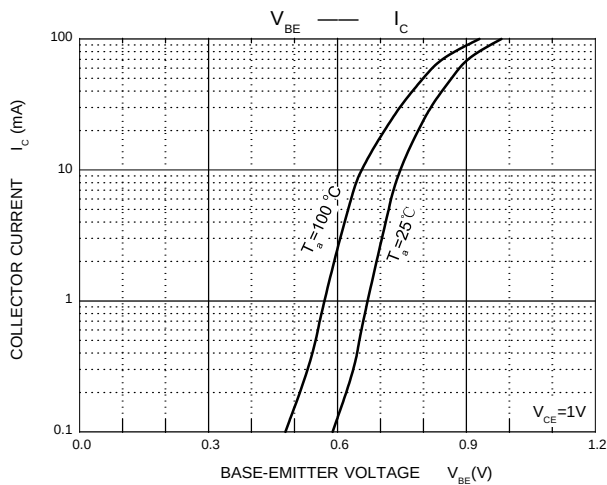
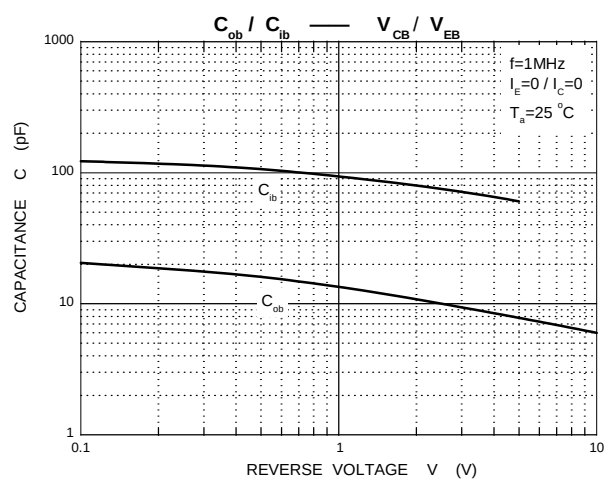
MMBTA05

Typical Characteristics



MMBTA06

Typical characteristics





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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