



Micro Commercial Components



Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311

Phone: (818) 701-4933

Fax: (818) 701-4939

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	$^{\circ}C/W$
T_J	Operating Junction Temperature	-55 to +150	$^{\circ}C$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}C$

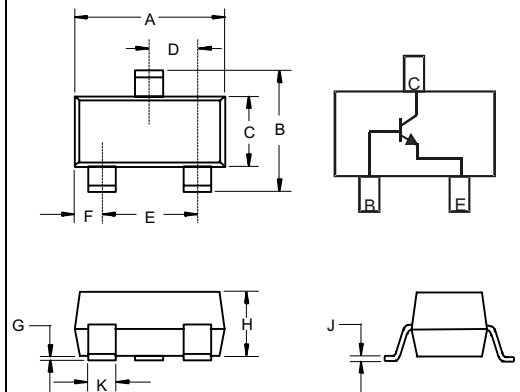
Electrical Characteristics @ 25 $^{\circ}C$ Unless Otherwise Specified

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

MMBTA05 THRU MMBTA06

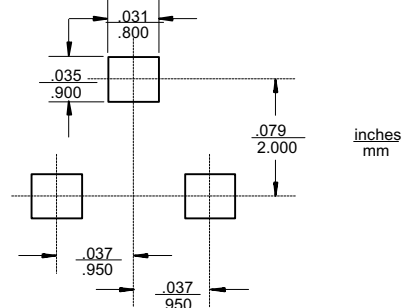
NPN Small Signal General Purpose Amplifier Transistors

SOT-23



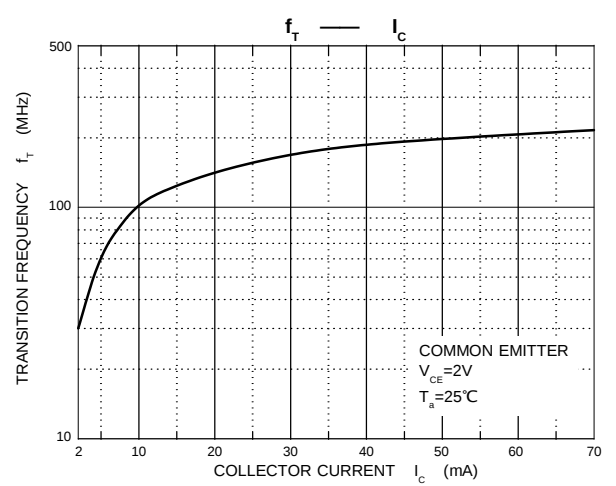
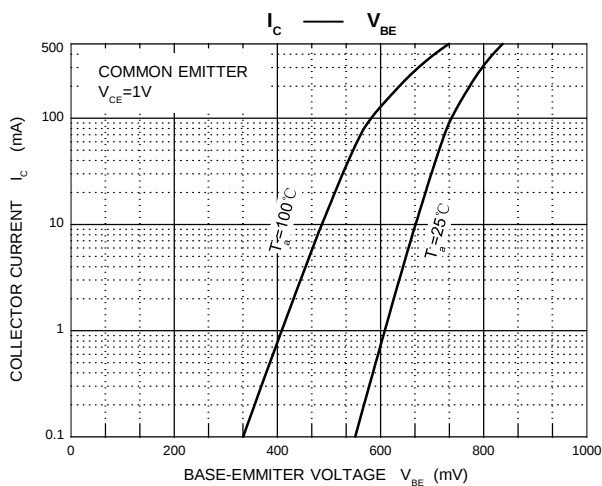
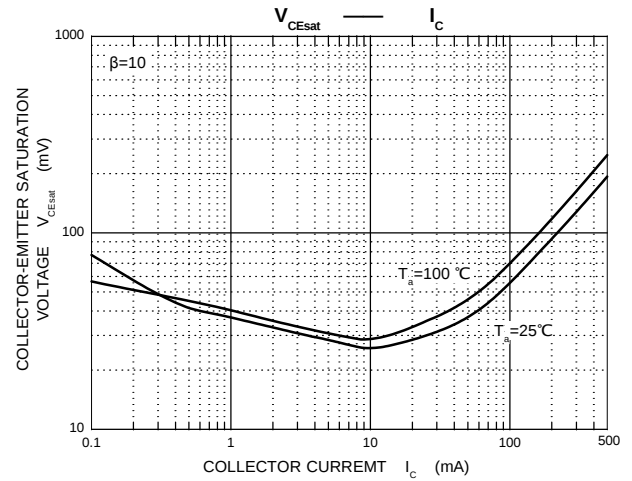
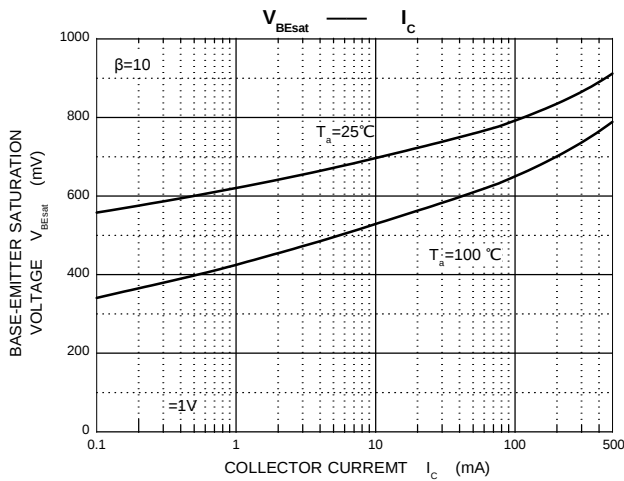
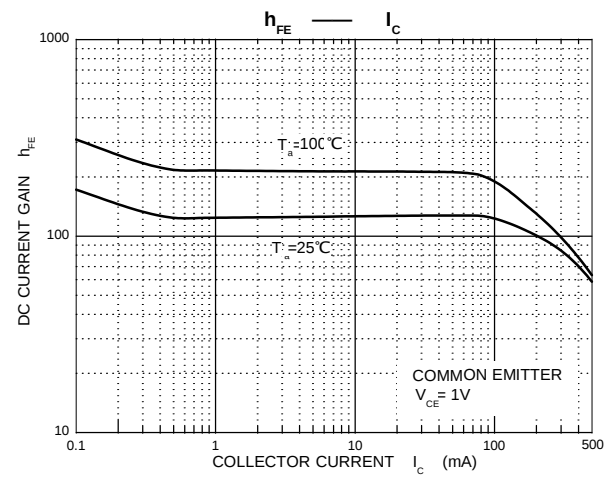
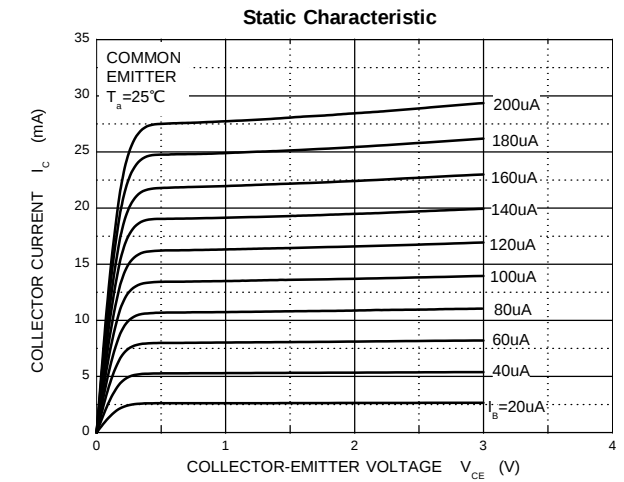
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



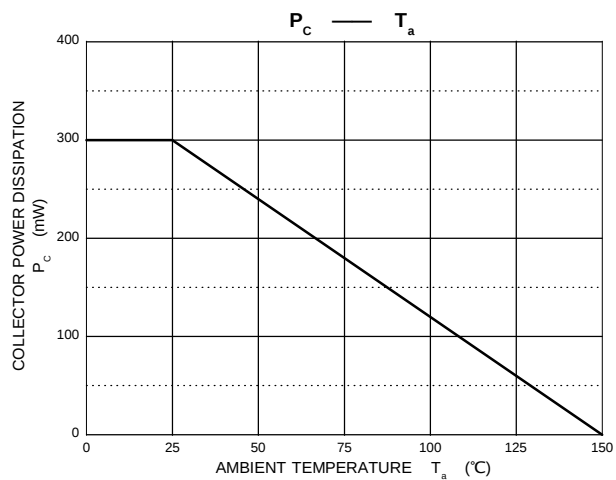
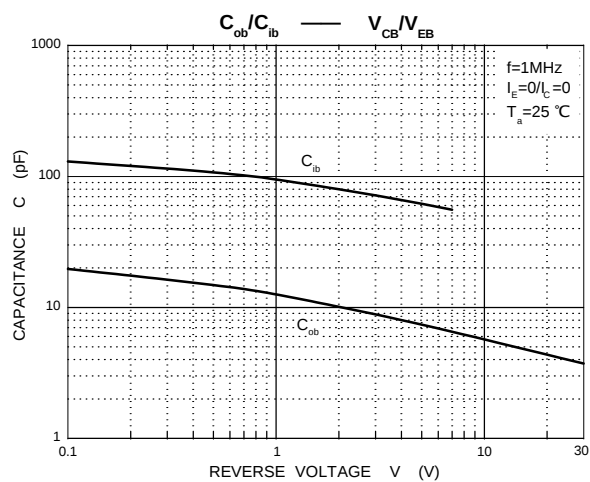
MMBTA05

Typical Characteristics



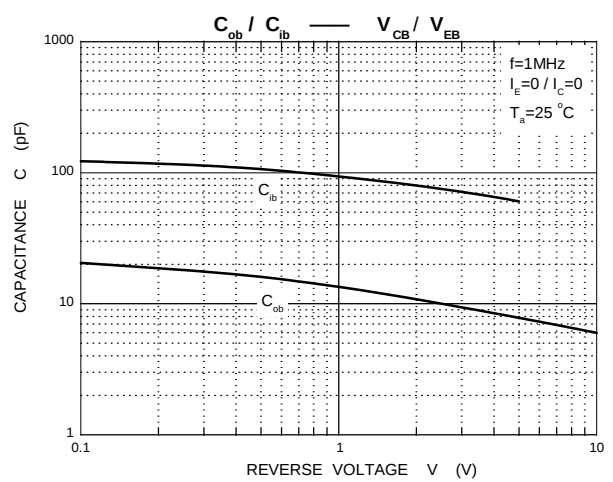
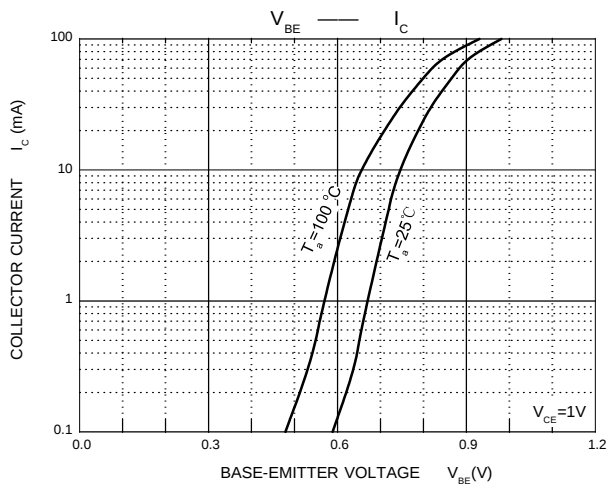
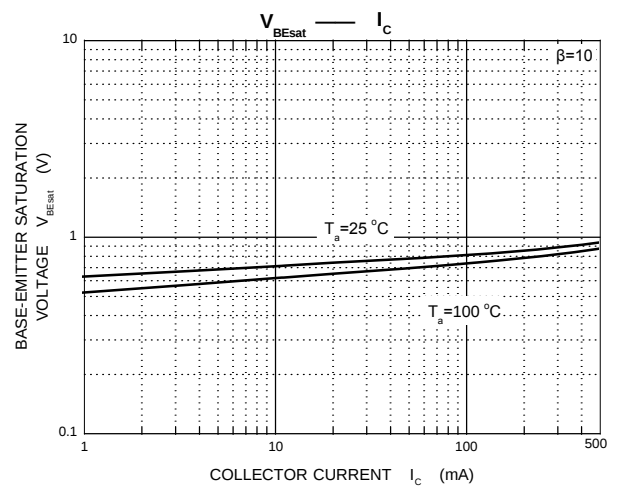
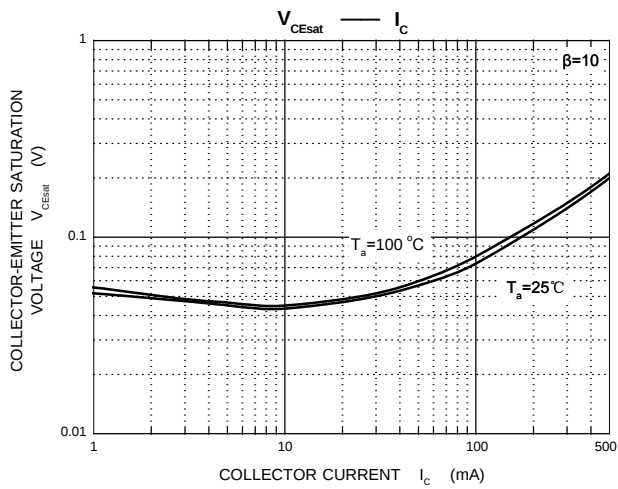
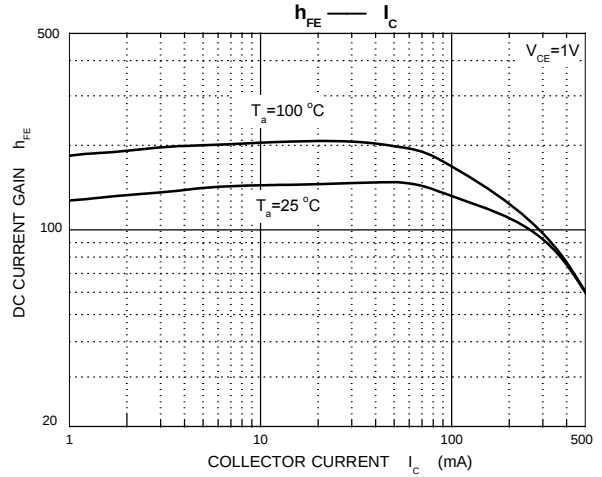
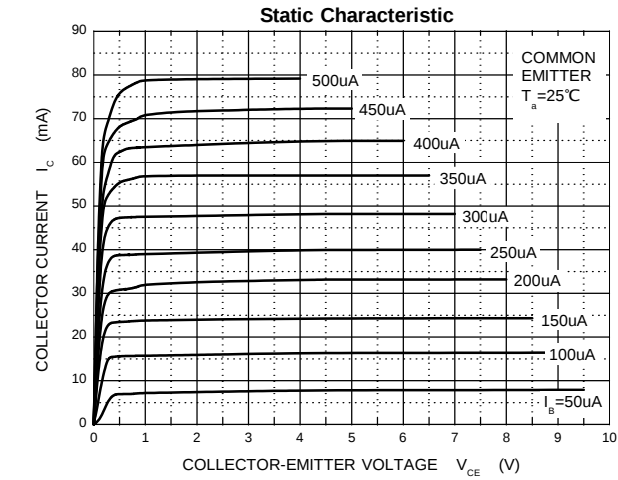
MMBTA05

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

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. **Micro Commercial Components Corp.** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Micro Commercial Components \(MCC\):](#)

[MMBTA06-TP](#) [MMBTA05-TP](#)