



Micro Commercial Components

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MMBTA05 THRU MMBTA06

Features

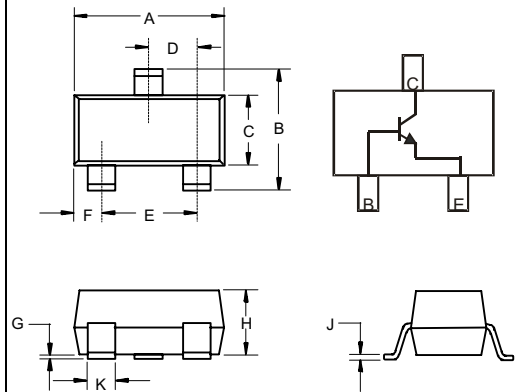
- Epitaxial Planar Die Construction
- Complementary PNP Types Available (MMBTA55/MMBTA56)
- Ideal for Medium Power Amplification and Switching.
- Case Material: Molded Plastic. UL Flammability Classification Rating 94-0 and MSL Rating 1
- Marking: MMBTA05:1H/K1H
MMBTA06:1GM/K1G

NPN Small Signal General Purpose Amplifier Transistors

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	357	K/W
T_J	Operating Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

SOT-23



Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=1.0\text{mA}$, $I_B=0$) 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	μA
I_{CES}	Emitter Cutoff Current ($V_{CE}=60\text{Vdc}$, $I_B=0$) MMBTA05 ($V_{CE}=80\text{Vdc}$, $I_B=0$) MMBTA06	---	0.1	μA

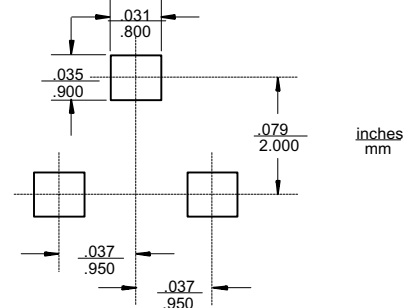
ON CHARACTERISTICS

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	---	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=10\text{mA}$)	---	0.25	Vdc
$V_{BE(on)}$	Base-Emitter On Voltage ($I_C=100\text{mA}$, $I_B=10\text{mA}$)	---	1.2	Vdc
f_T	Current-Gain—Bandwidth Product ($I_C=10\text{mA}$, $V_{CE}=2.0\text{Vdc}$, $f=100\text{MHz}$)	100	---	MHz

* Valid provided that terminals are kept at ambient temperature..

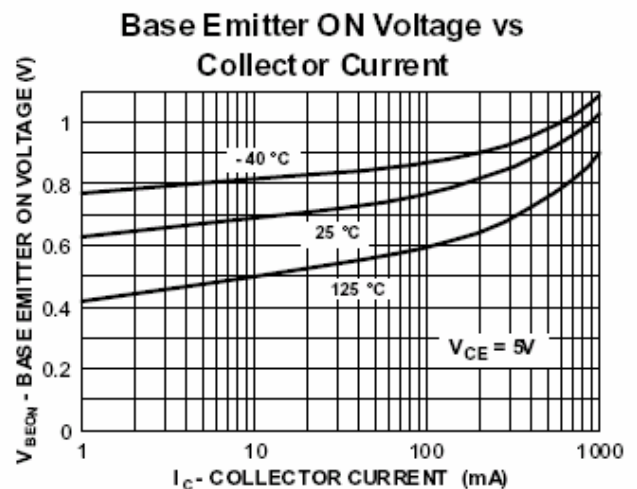
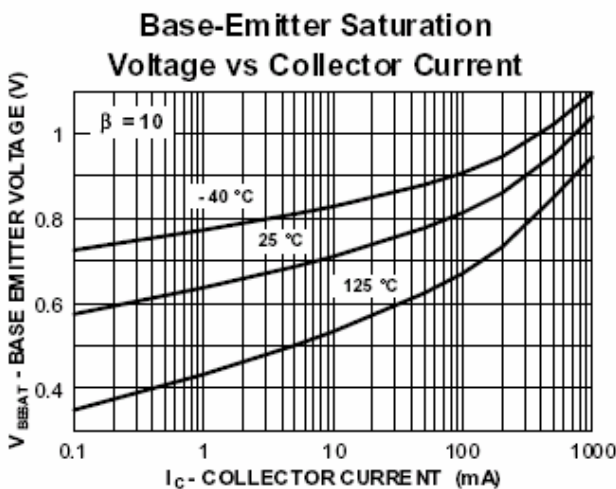
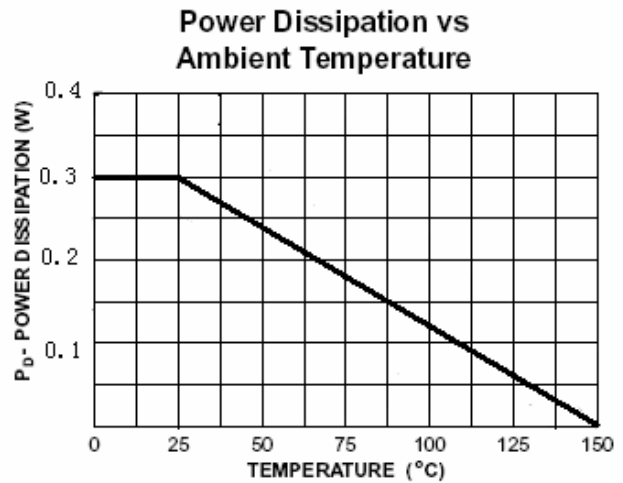
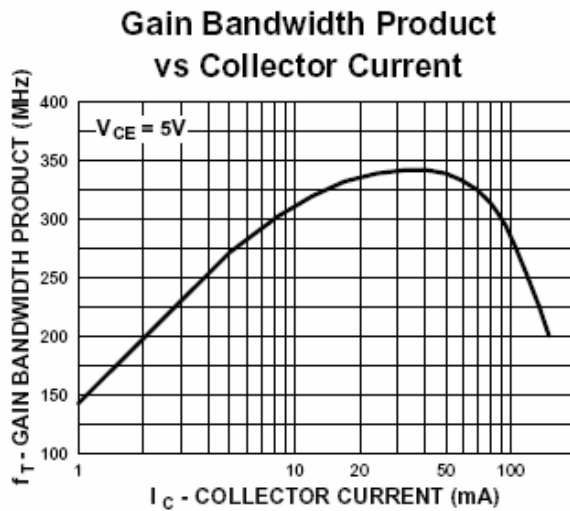
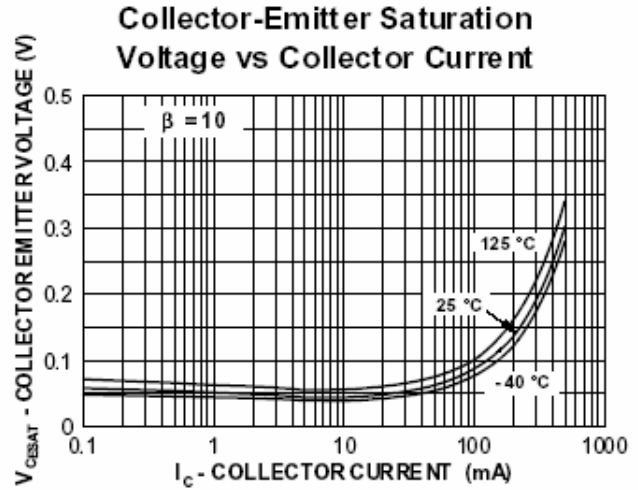
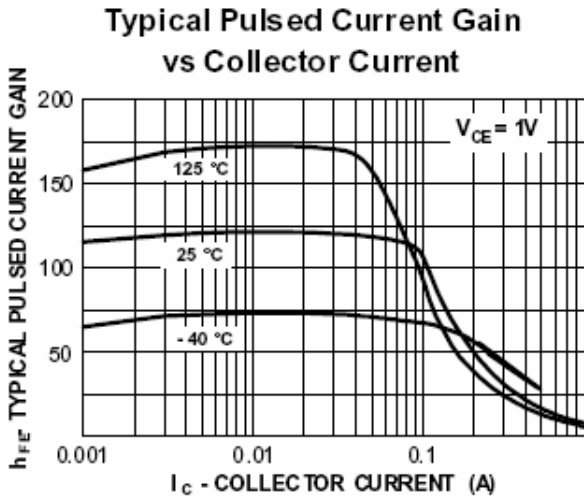
DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



MMBTA05

Typical Characteristics



MMBTA06

Typical characteristics

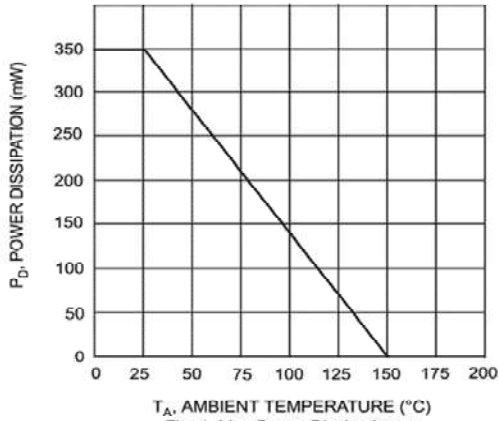


Fig. 1, Max Power Dissipation vs Ambient Temperature

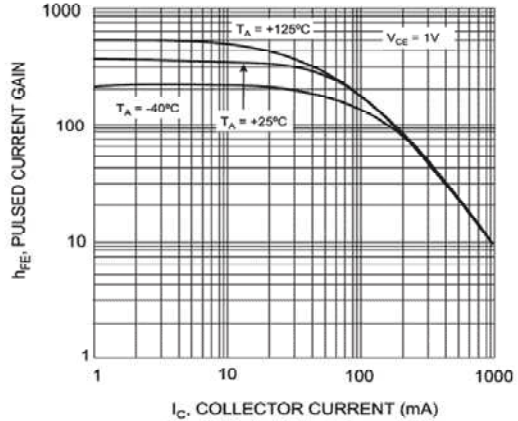


Fig. 2, Typical Pulsed Current Gain vs. Collector Current

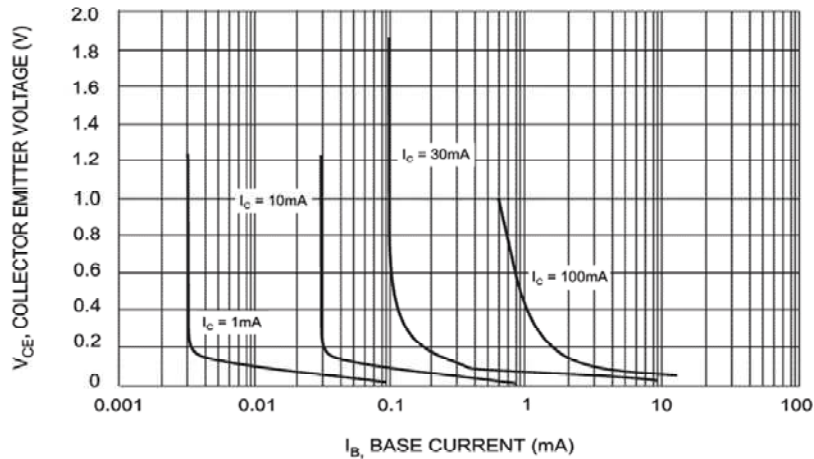


Fig. 3 Typical Collector Saturation Region

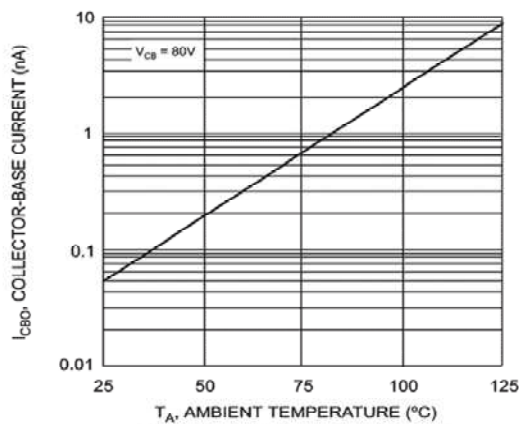


Fig. 4 Typical Collector-Cutoff Current vs. Ambient Temperature



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Ordering Information

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

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