



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.
- 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	60	V
	MMBTA05	80	
V _{CBO}	Collector-Base Voltage	60	V
	MMBTA05	80	
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Collector Current-Continuous	500	mA
P _D	Power Dissipation*	300	mW
R _{θJA}	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

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 =1.0mA, I _B =0)	60	---	Vdc
V _{(BR)EBO}	Emitter-Base Breakdown Voltage (I _E =100μA, 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	μA
I _{CES}	Emitter Cutoff Current (V _{CE} =60Vdc, I _B =0) MMBTA05 (V _{CE} =80Vdc, I _B =0) MMBTA06	---	0.1	μA

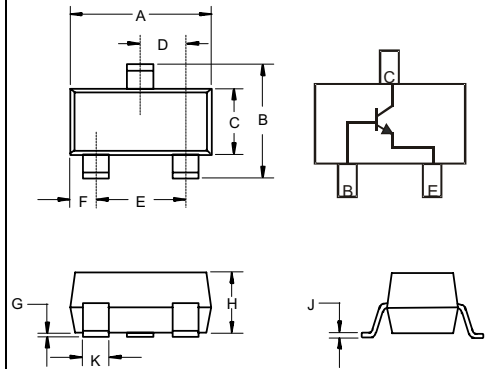
ON CHARACTERISTICS

h _{FE}	DC Current Gain (V _{CE} =1.0Vdc, I _C =10mA) (V _{CE} =1.0Vdc, I _C =100mA)	100	---	
V _{CE(sat)}	Collector-Emitter Saturation Voltage (I _C =100mA, I _B =10mA)	---	0.25	Vdc
V _{BE(on)}	Base-Emitter On Voltage (I _C =100mA, I _B =10mA)	---	1.2	Vdc
f _T	Current-Gain—Bandwidth Product (I _C =10mA, V _{CE} =2.0Vdc, f=100MHz)	100	---	MHz

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

NPN Small Signal General Purpose Amplifier Transistors

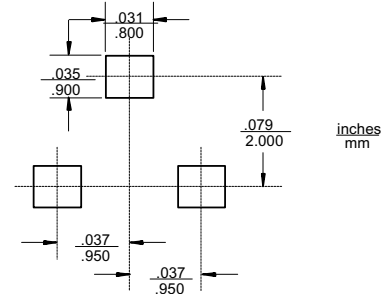
SOT-23



DIMENSIONS

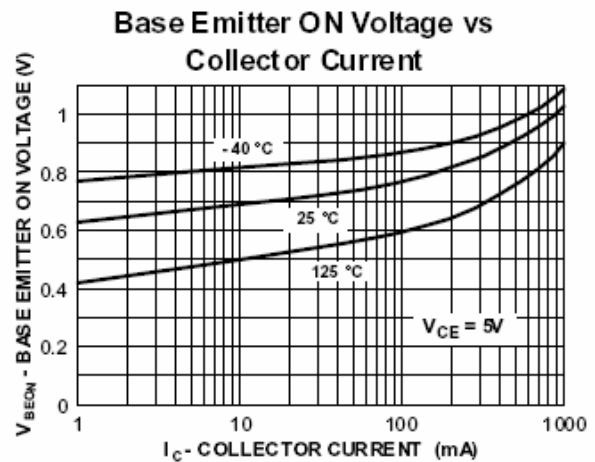
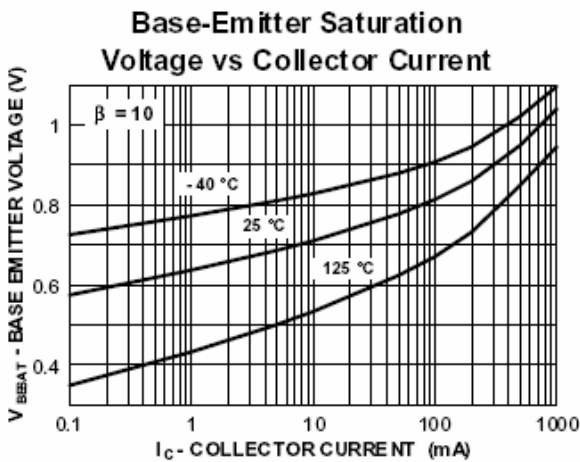
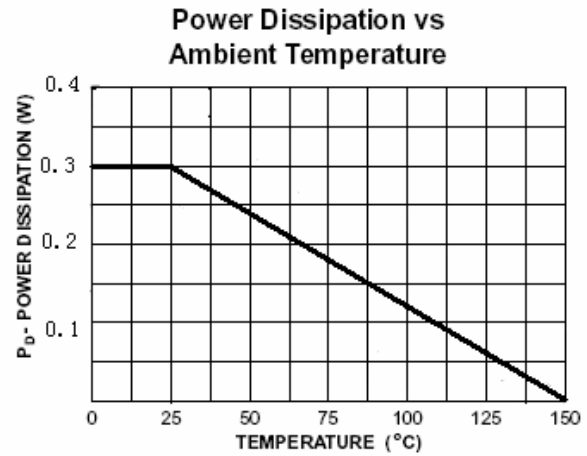
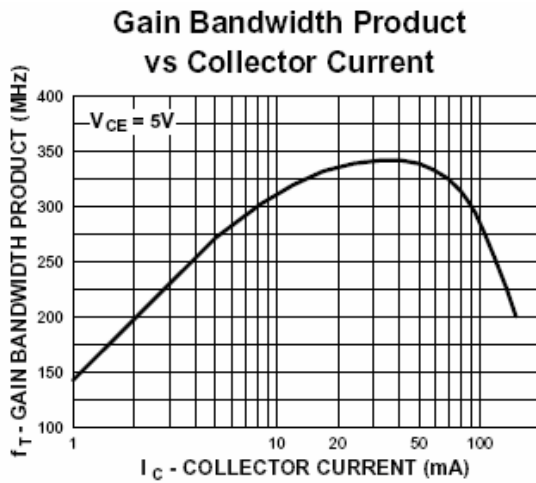
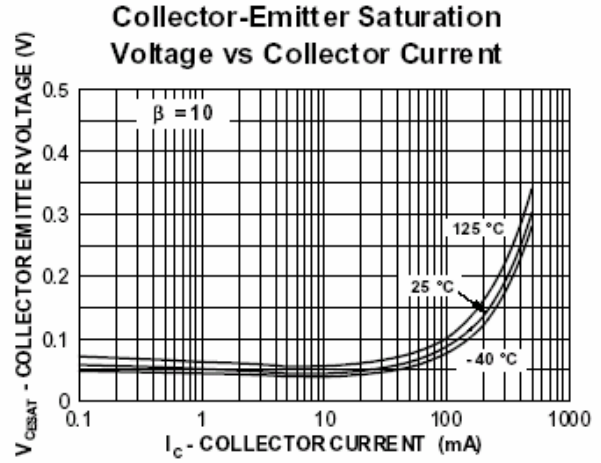
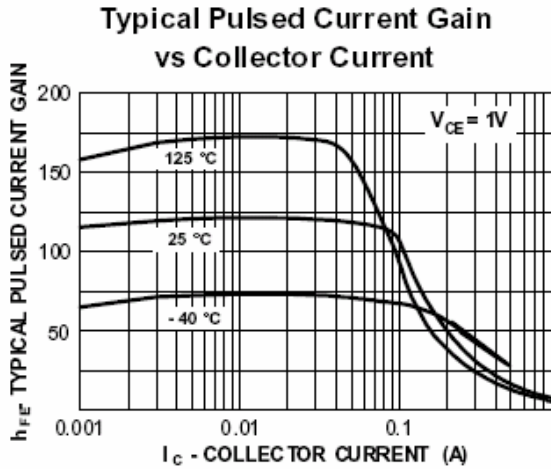
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



MMBTA05

Typical Characteristics



MMBTA06

Typical characteristics

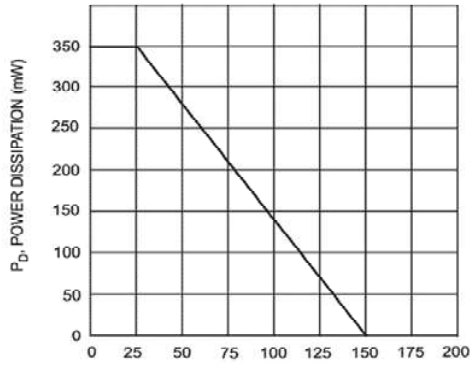


Fig. 1. Max Power Dissipation vs Ambient Temperature

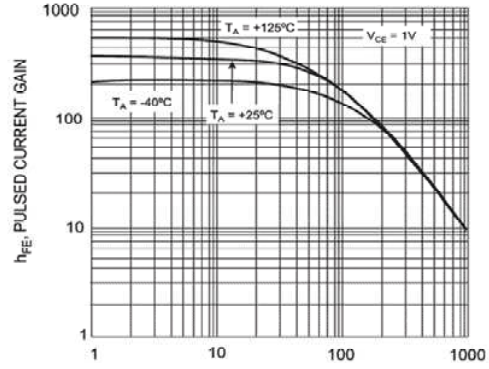


Fig. 2. Typical Pulsed Current Gain vs. Collector Current

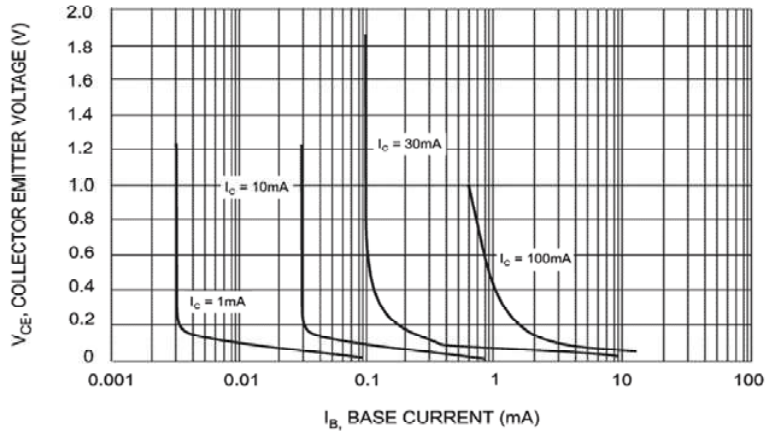


Fig. 3 Typical Collector Saturation Region

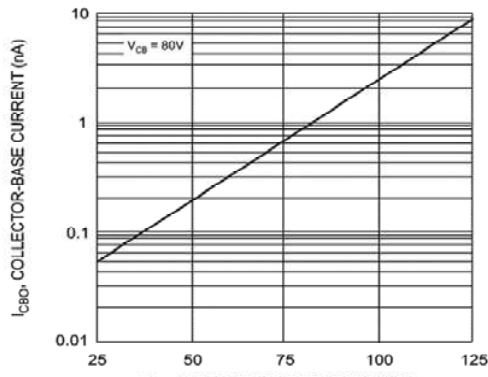


Fig. 4 Typical Collector-Cutoff Current vs. Ambient Temperature



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Ordering Information :

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

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