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Part Number	MMBTA05
product family	SOT-23 Plastic-Encapsulate Bipolar Transistors
Product Polarity	NPN
SMD/ThroHole	SMD
VCEO	60V
VCBO	60V
VEBO	4.0V
Ic	500mA
PC	350mW
HFE(min)	100
@Ic	10mA
@VCE	1.0V
ICBO	0.1µA
IEBO	
VCE(sat)	0.25V
VBE(sat)	1.2V
ft	100MHZ
nf	
TON_max	
Package Qty	Tape: 3K/Reel , 120K/Ctn;

Green/Pb Free/RoHS/REACH

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- [Certification of REACH Compliance](#)
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- [MCC's EU RoHS and Green \(Halogen & Antimony Free\)](#)
- [Parts List](#)
- [REACH SVHC Test Report](#)





Micro Commercial Components

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

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	60	---	Vdc
	(I _C =1.0mA, I _B =0)			
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	4.0	---	Vdc
	(I _E =100μA, I _C =0)			
I _{CBO}	Collector Cutoff Current	---	0.1	μA
	(V _{CB} =60Vdc, I _E =0) MMBTA05			
I _{CES}	Emitter Cutoff Current	---	0.1	μA
	(V _{CE} =60Vdc, I _B =0) MMBTA05			
	(V _{CE} =80Vdc, I _B =0) MMBTA06			

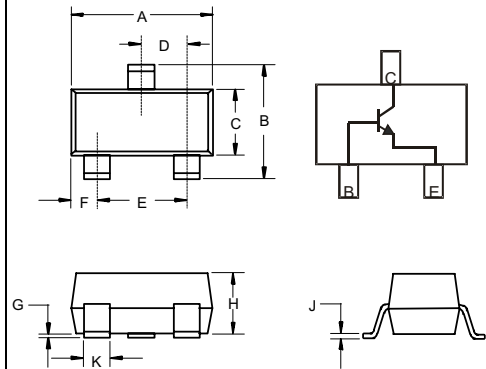
ON CHARACTERISTICS

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

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

NPN Small Signal General Purpose Amplifier Transistors

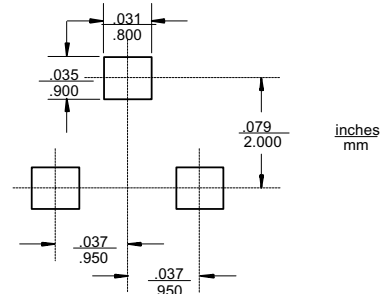
SOT-23



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.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





Micro Commercial Components™

Ordering Information

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