



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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 _{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 80	---	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

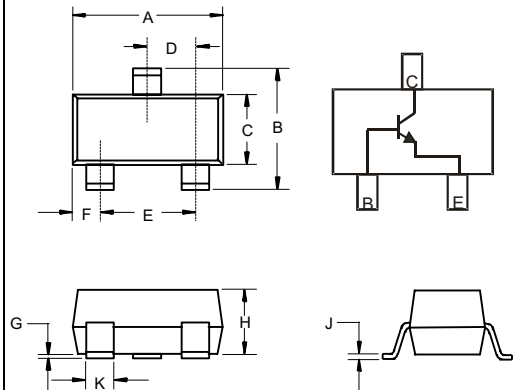
ON CHARACTERISTICS

h _{FE}	DC Current Gain (V _{CE} =1.0Vdc, I _C =10mA) (V _{CE} =1.0Vdc, I _C =100mA)	100 100	---	
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..

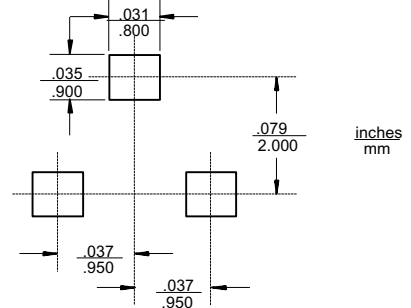
NPN Small Signal General Purpose Amplifier Transistors

SOT-23



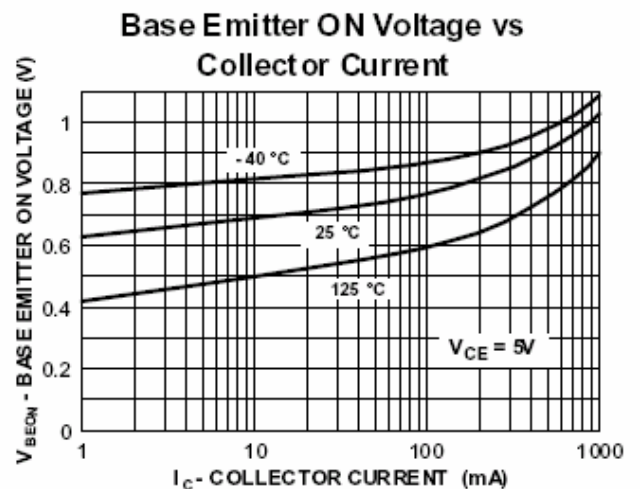
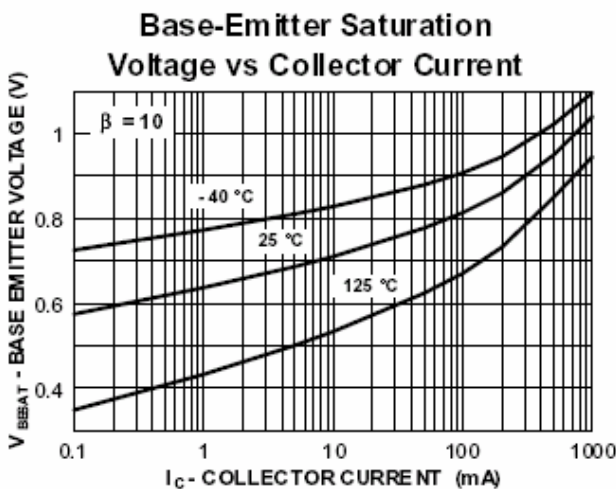
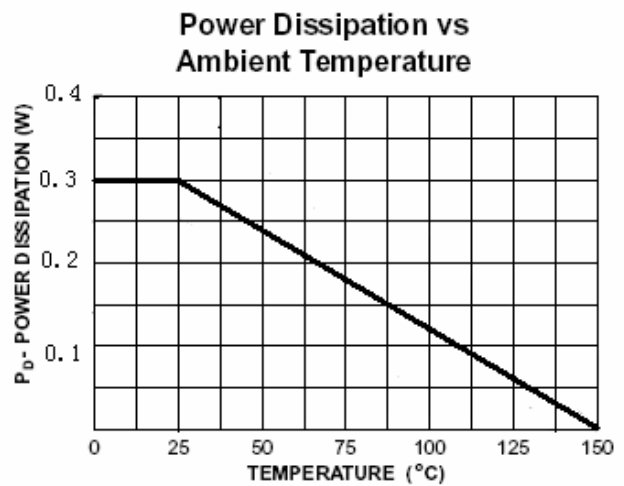
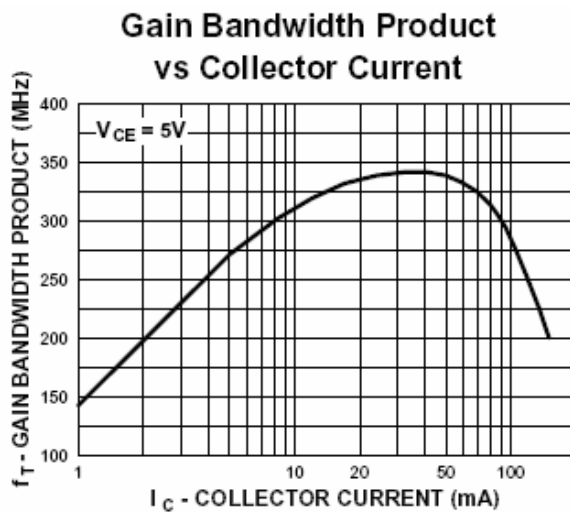
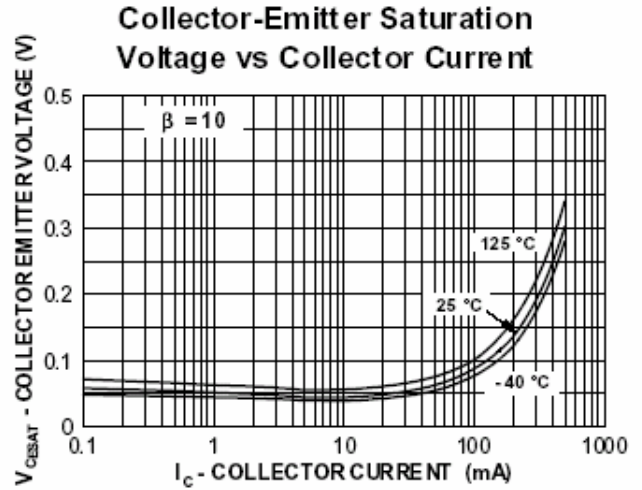
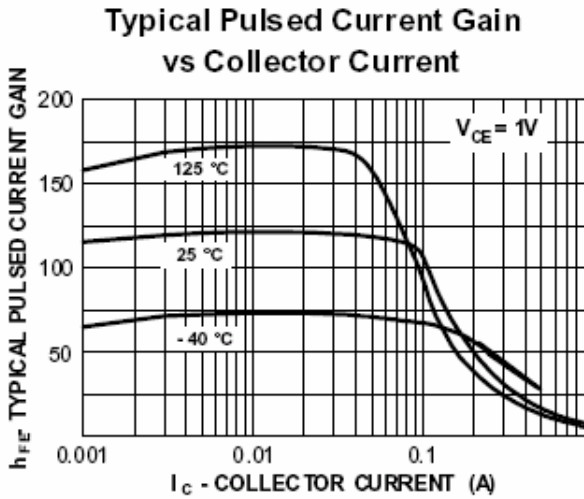
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout



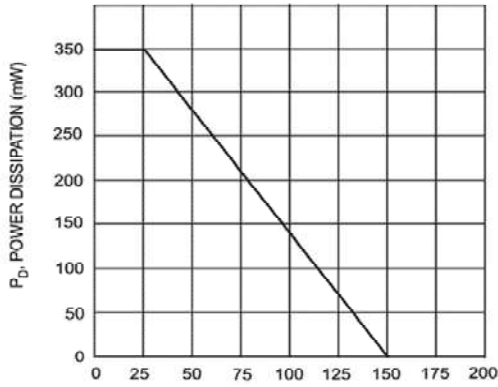
MMBTA05

Typical Characteristics

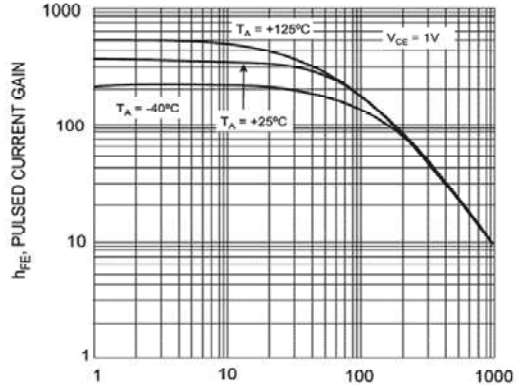


MMBTA06

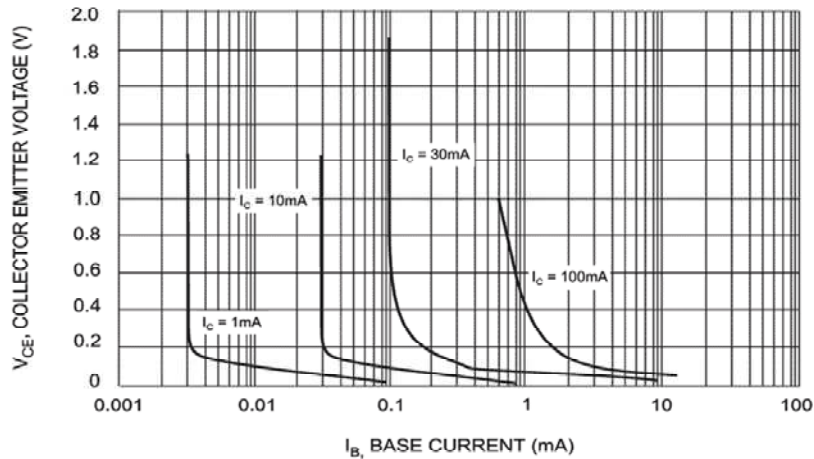
Typical characteristics



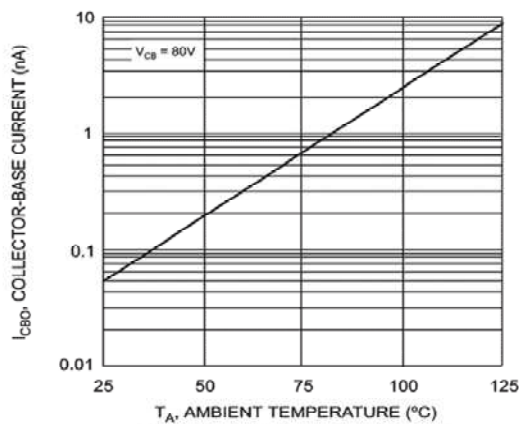
T_A , AMBIENT TEMPERATURE (°C)
 Fig. 1, Max Power Dissipation vs Ambient Temperature



I_C , COLLECTOR CURRENT (mA)
 Fig. 2, Typical Pulsed Current Gain vs. Collector Current



I_B , BASE CURRENT (mA)
 Fig. 3 Typical Collector Saturation Region



T_A , AMBIENT TEMPERATURE (°C)
 Fig. 4 Typical Collector-Cutoff Current vs. Ambient Temperature



Micro Commercial Components

Ordering Information :

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

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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