



Micro Commercial Components

Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

## Features

- This device is designed for general purpose amplifier applications at collector current to 300mA
- Marking : MMBTA55=2H/B55, MMBTA56=2GM/B56
- Case Material:Molded Plastic. UL Flammability Classificatio Rating 94-0 and MSL Rating 1

### Maximum Ratings

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	60	V
	MMBTA55	80	
V <sub>CBO</sub>	Collector-Base Voltage	60	V
	MMBTA55	80	
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Collector Current, Continuous	500	mA
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

### Thermal Characteristics

Symbol	Rating	Max	Unit
P <sub>D</sub>	Total Device Dissipation*	225	mW
	Derate above 25°C	1.8	mW/°C
R <sub>JA</sub>	Thermal Resistance, Junction to Ambient	556	°C/W

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
--------	-----------	-----	-----	-------

#### OFF CHARACTERISTICS

V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage <sup>(1)</sup> (I <sub>C</sub> =1.0mA, I <sub>B</sub> =0)	60	---	Vdc
	MMBTA55	80	---	
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage (I <sub>E</sub> =100mA, I <sub>C</sub> =0)	4.0	---	Vdc
I <sub>CBO</sub>	Collector Cutoff Current (V <sub>CB</sub> =60Vdc, I <sub>E</sub> =0)	---	0.1	uAdc
	MMBTA56 (V <sub>CB</sub> =80Vdc, I <sub>E</sub> =0)	---	0.1	uAdc
I <sub>CES</sub>	Emitter Cutoff Current (V <sub>CE</sub> =60Vdc, I <sub>B</sub> =0)	---	0.1	uAdc

#### ON CHARACTERISTICS

h <sub>FE</sub>	DC Current Gain (V <sub>CE</sub> =1.0Vdc, I <sub>C</sub> =10mA)	100	---	---
	(V <sub>CE</sub> =1.0Vdc, I <sub>B</sub> =100mA)	100	---	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage (I <sub>C</sub> =100mA, I <sub>B</sub> =10mA)	---	0.25	Vdc
V <sub>BE(on)</sub>	Base-Emitter On Voltage (I <sub>C</sub> =100mA, V <sub>CE</sub> =1.0Vdc)	---	1.2	Vdc
f <sub>T</sub>	Current-Gain—Bandwidth Product <sup>(2)</sup> (I <sub>C</sub> =100mA, V <sub>CE</sub> =1.0Vdc, f=100MHz)	50	---	MHz

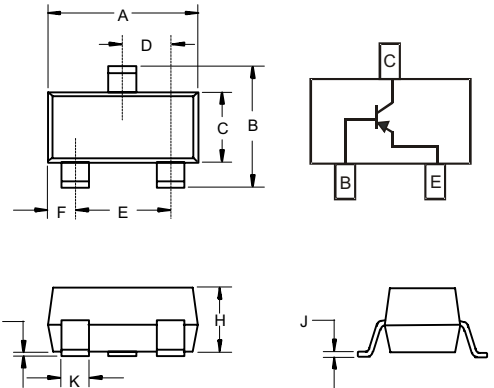
\* FR-5=1.0 X 0.75 X 0.062 in.

- Pulse Test: Pulse Width<300us, Duty Cycle<2.0%
- Alumina=0.4 X 0.3 X 0.024 in. 99.5% alumina.

# MMBTA55 THRU MMBTA56

## PNP General Purpose Amplifier

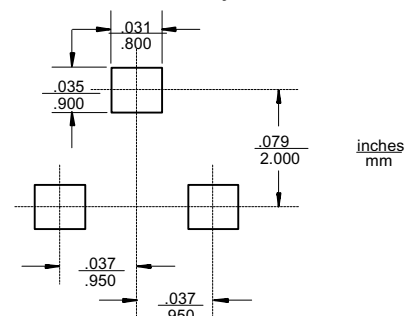
### SOT-23



#### 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



# MMBTA55 thru MMBTA56

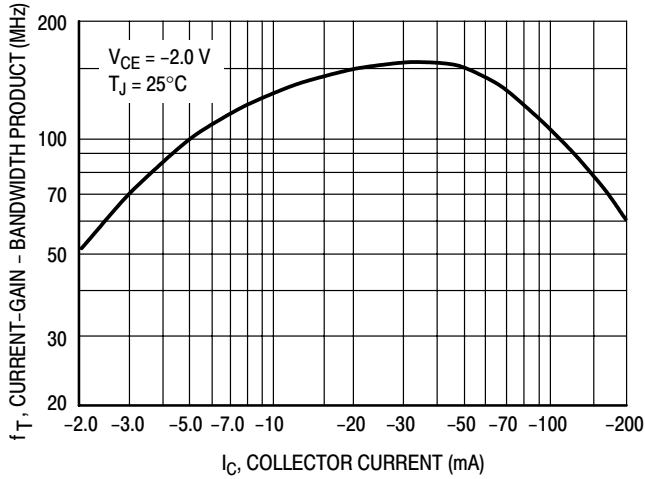


Figure 2. Current-Gain — Bandwidth Product

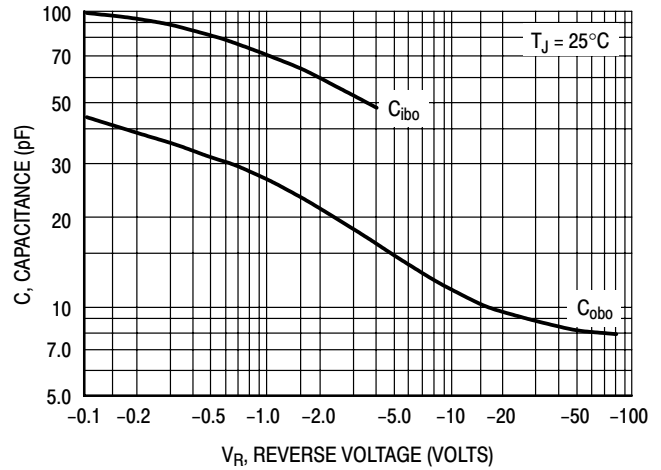


Figure 3. Capacitance

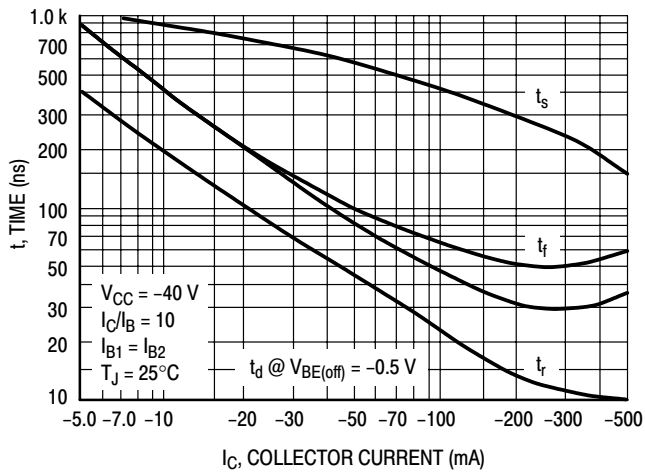


Figure 4. Switching Time

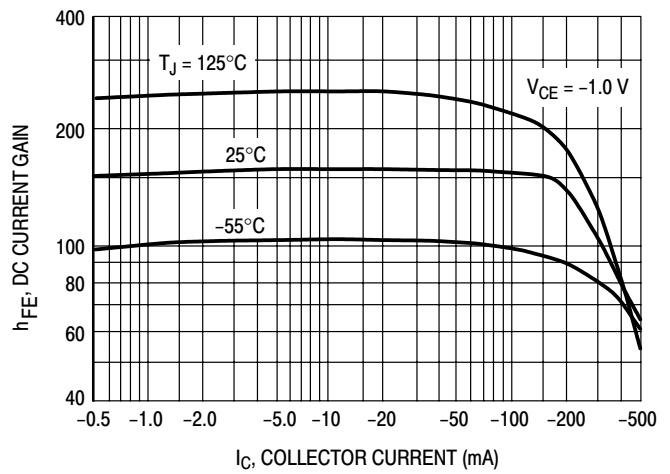


Figure 5. DC Current Gain

# MMBTA55 thru MMBTA56

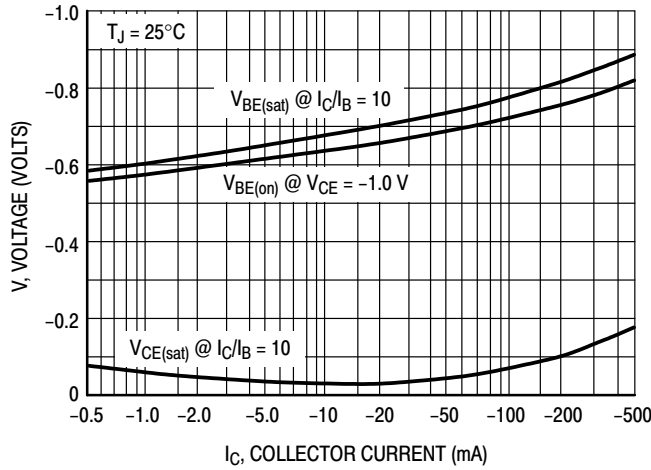


Figure 6. "ON" Voltages

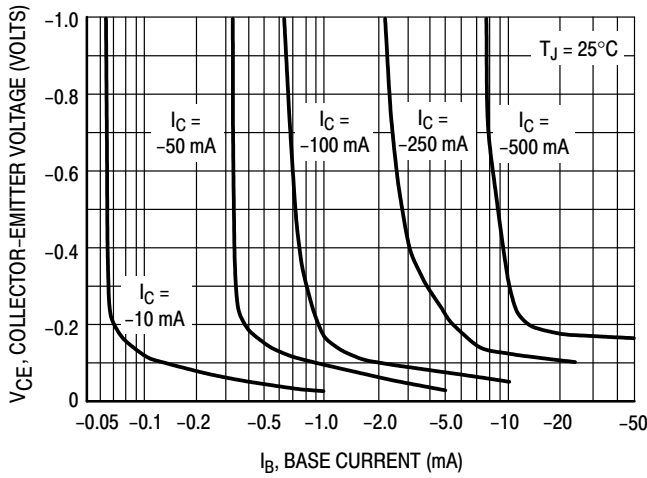


Figure 7. Collector Saturation Region

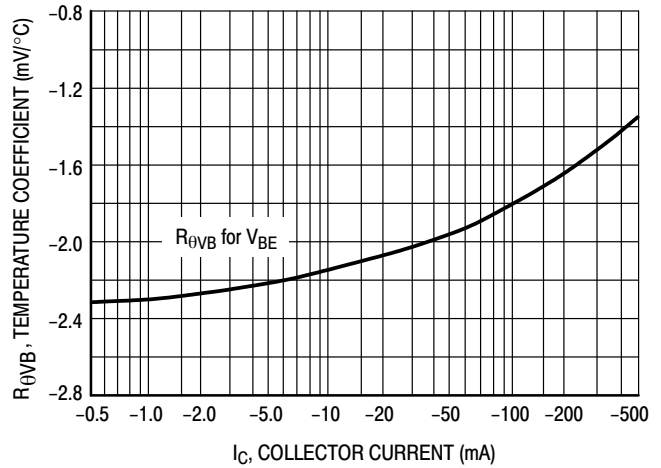


Figure 8. Base-Emitter Temperature Coefficient



Micro Commercial Components

## Ordering Information

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

### \*\*\*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.

### \*\*\*APPLICATIONS DISCLAIMER\*\*\*

Products offer by *Micro Commercial Components Corp.* are not intended for use in Medical, Aerospace or Military Applications.