



Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311

Phone: (818) 701-4933

Fax: (818) 701-4939

# MMBTA55 THRU MMBTA56

## Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- This device is designed for general purpose amplifier applications at collector current to 300mA
- Markin : MMBTA55=2H/B55, MMBTA56=2GM/B56
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1

### Maximum Ratings

Symbol	Rating	Rating	Unit
$V_{CEO}$	Collector-Emitter Voltage MMBTA55 MMBTA56	60 80	V
$V_{CBO}$	Collector-Base Voltage MMBTA55 MMBTA56	60 80	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Collector Current, Continuous	500	mA
$T_J$	Operating Junction Temperature	-55 to +150	°C
$T_{STG}$	Storage Temperature	-55 to +150	°C

### Thermal Characteristics

Symbol	Rating	Max	Unit
$P_D$	Total Device Dissipation* Derate above 25°C	225 1.8	mW mW/°C
$R_{JA}$	Thermal Resistance, Junction to Ambient	556	°C/W

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

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

### OFF CHARACTERISTICS

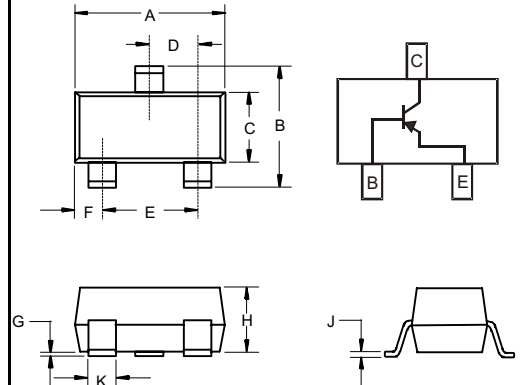
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage <sup>(1)</sup> ( $I_C=1.0mA$ , $I_B=0$ ) MMBTA55 MMBTA56	60 80	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_E=100\mu A$ , $I_C=0$ )	4.0	---	Vdc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=60Vdc$ , $I_E=0$ ) MMBTA55 MMBTA56	---	0.1 0.1	$\mu A$
$I_{CES}$	Emitter Cutoff Current ( $V_{CE}=60Vdc$ , $I_B=0$ )	---	0.1	$\mu A$

### 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 ( $I_C=100mA$ , $V_{CE}=1.0Vdc$ )	---	1.2	Vdc
$f_T$	Current Gain—Bandwidth Product <sup>(2)</sup> ( $I_C=100mA$ , $V_{CE}=1.0Vdc$ , $f=100MHz$ )	50	---	MHz

## PNP General Purpose Amplifier

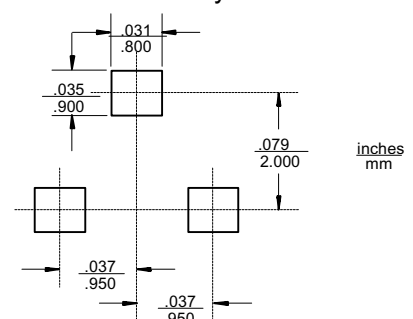
### SOT-23



#### 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



# MMBTA55 thru MMBTA56

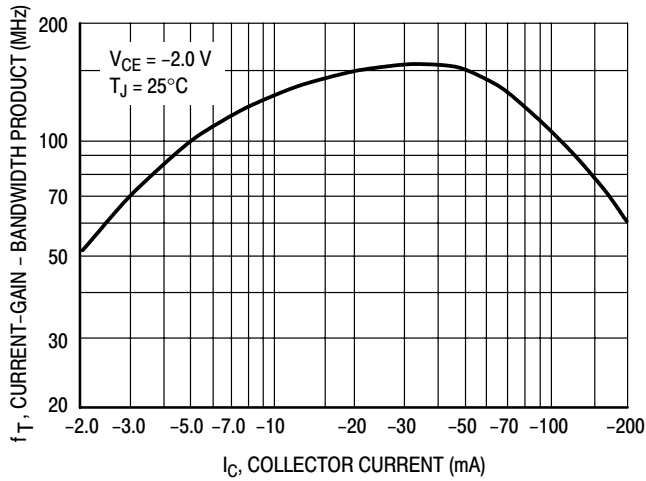


Figure 2. Current-Gain — Bandwidth Product

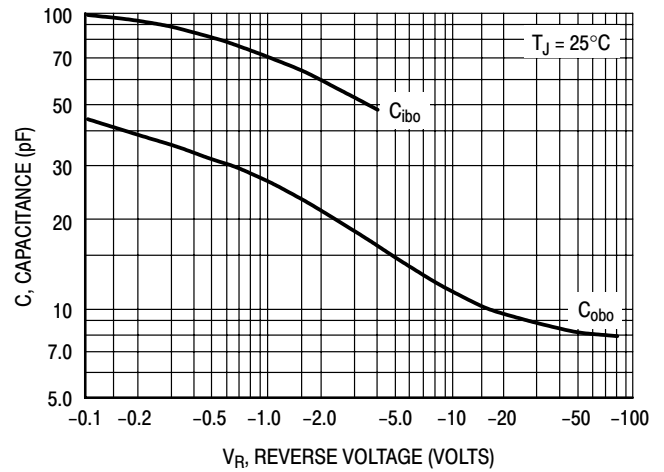


Figure 3. Capacitance

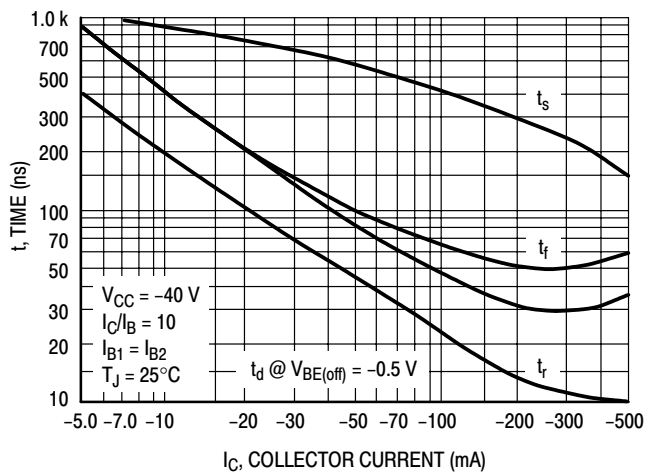


Figure 4. Switching Time

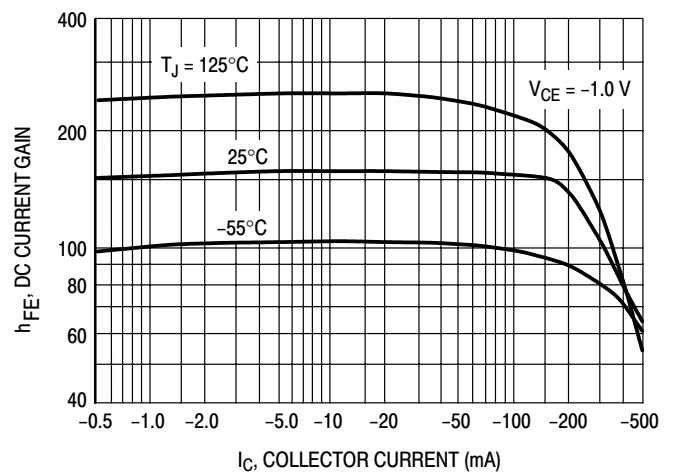


Figure 5. DC Current Gain

# MMBTA55 thru MMBTA56

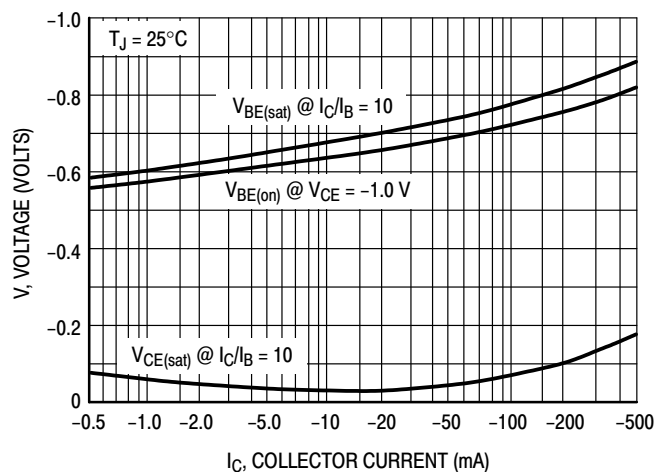


Figure 6. "ON" Voltages

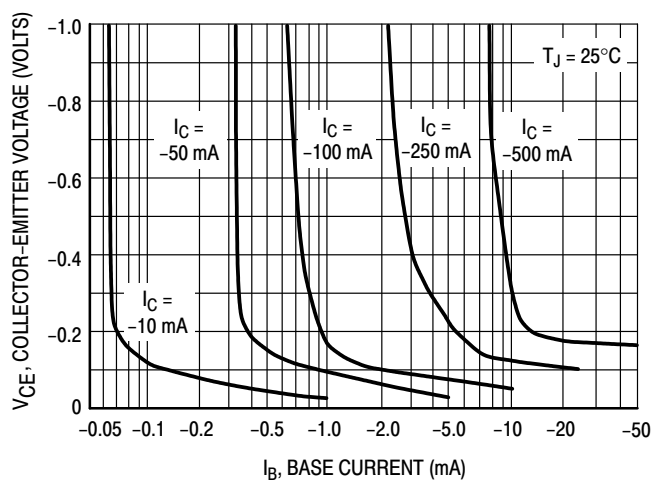


Figure 7. Collector Saturation Region

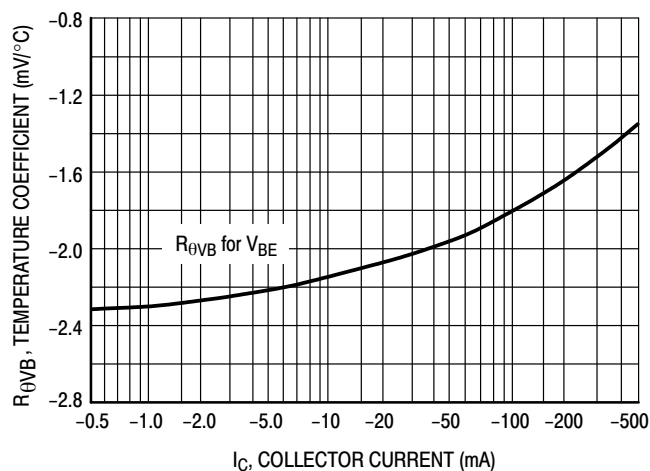


Figure 8. Base-Emitter Temperature Coefficient

Ordering Information :

Device	Packing
Part Number-TP	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.

\*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

\*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.