



Micro Commercial Components



Micro Commercial Components  
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# MMBTA55 THRU MMBTA56

## PNP General Purpose Amplifier

### Features

- Halogen free available upon request by adding suffix "-HF"
- 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
- Moisture Sensitivity Level 1

### Maximum Ratings

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	MMBTA55	60
		MMBTA56	80
V <sub>CBO</sub>	Collector-Base Voltage	MMBTA55	60
		MMBTA56	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* Derate above 25°C	225	mW
		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
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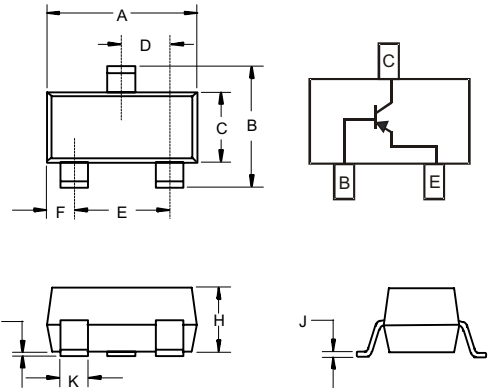
### OFF CHARACTERISTICS

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

### ON CHARACTERISTICS

h <sub>FE</sub>	DC Current Gain (V <sub>CE</sub> =1.0Vdc, I <sub>C</sub> =10mA) (V <sub>CE</sub> =1.0Vdc, I <sub>C</sub> =100mA)	100	---	---
		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

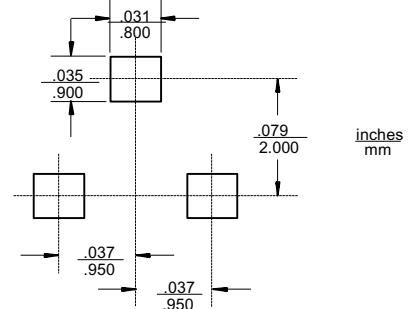
### SOT-23



### 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

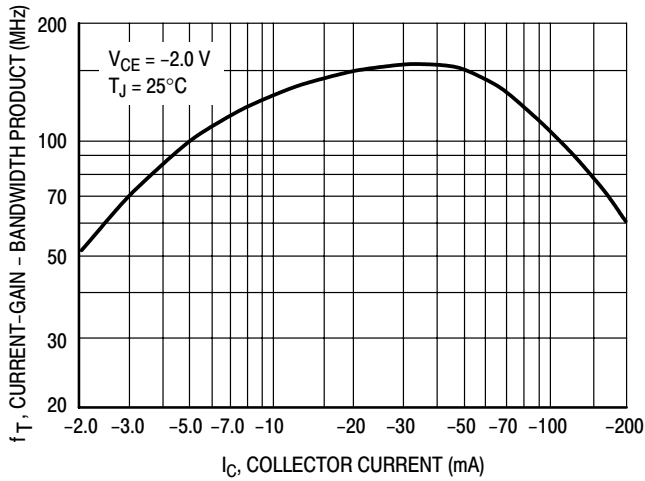


Figure 2. Current-Gain — Bandwidth Product

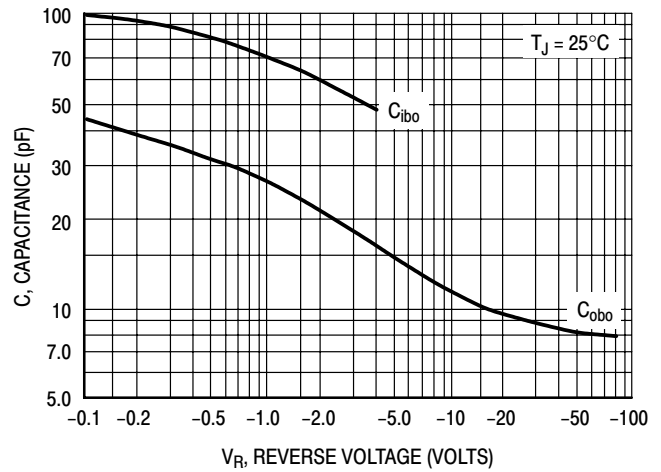


Figure 3. Capacitance

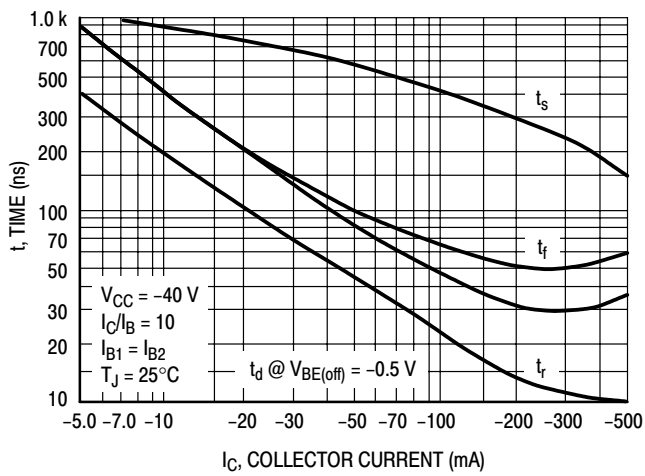


Figure 4. Switching Time

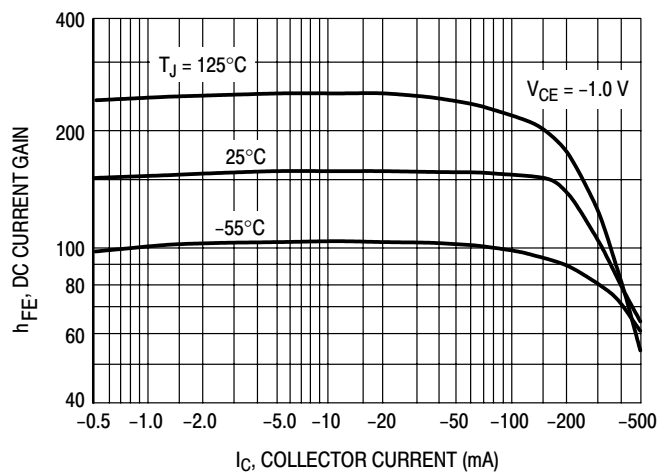


Figure 5. DC Current Gain

# MMBTA55 thru MMBTA56

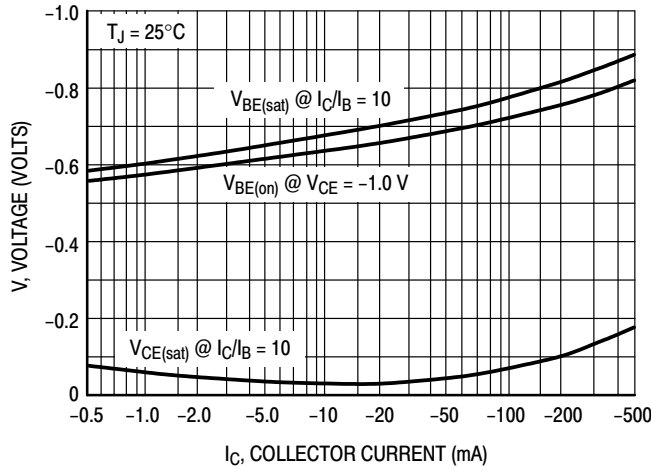


Figure 6. "ON" Voltages

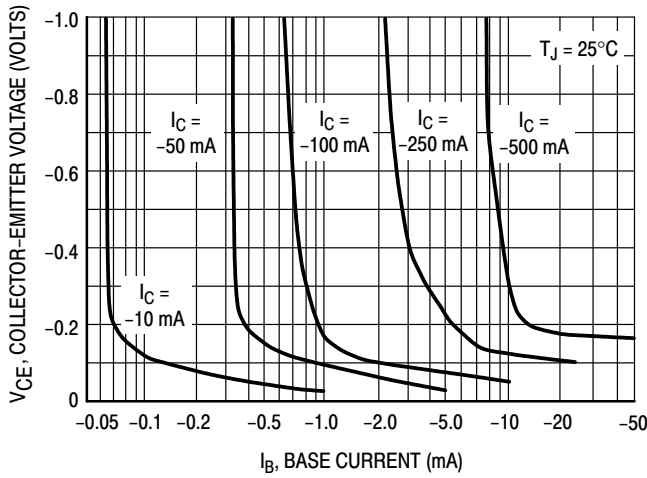


Figure 7. Collector Saturation Region

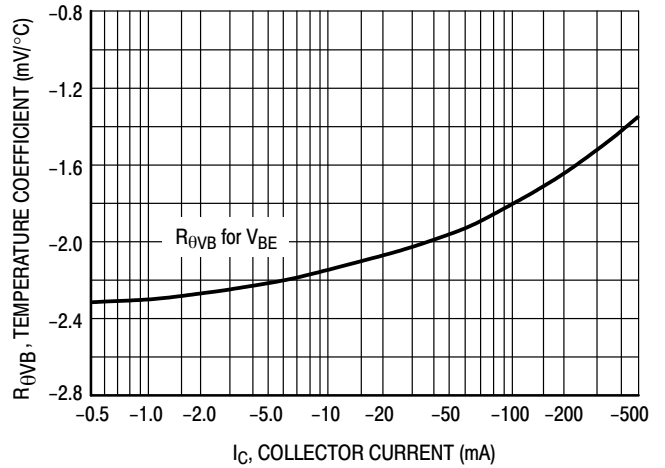


Figure 8. Base-Emitter Temperature Coefficient



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### Ordering Information :

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

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

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