



Micro Commercial Components



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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_{CEO}	Collector-Emitter Voltage	MMBTA55	60
		MMBTA56	80
V_{CBO}	Collector-Base Voltage	MMBTA55	60
		MMBTA56	80
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	mW
		1.8	mW/°C
R_{JA}	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

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ⁽¹⁾ ($I_C=1.0mA$, $I_B=0$)	MMBTA55	60	---	Vdc
		MMBTA56	80	---	
$V_{(BR)EBO}$	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	---	0.1	μA
		MMBTA56	---	0.1	μA
I_{CES}	Emitter Cutoff Current ($V_{CE}=60Vdc$, $I_B=0$)	---	---	0.1	μA

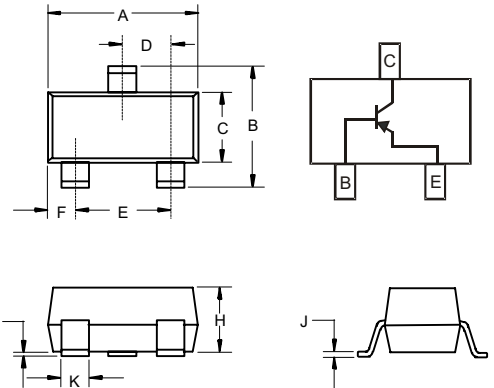
ON CHARACTERISTICS

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

MMBTA55 THRU MMBTA56

PNP General Purpose Amplifier

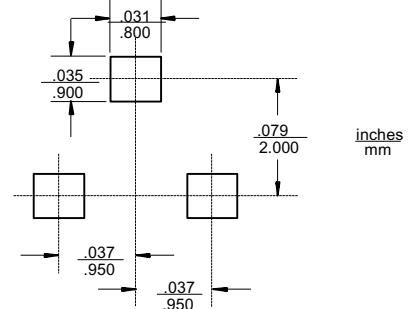
SOT-23



DIMENSIONS

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

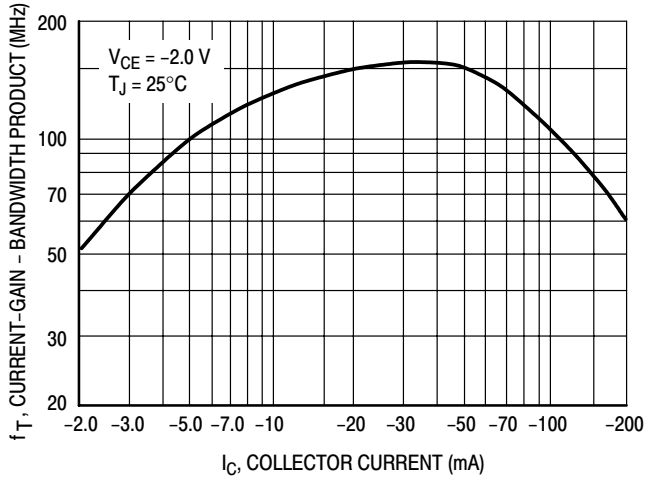


Figure 2. Current-Gain — Bandwidth Product

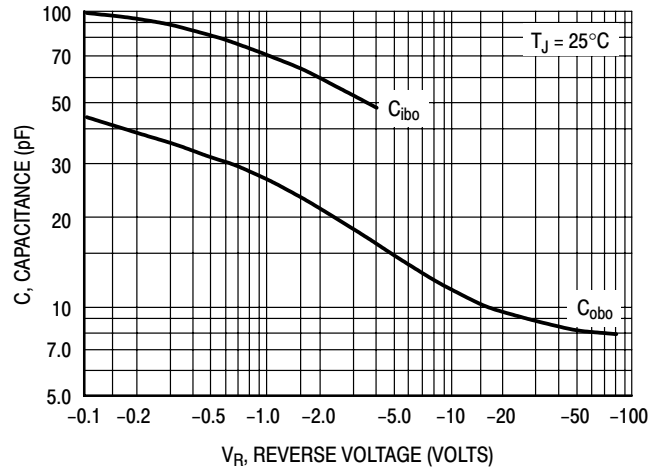


Figure 3. Capacitance

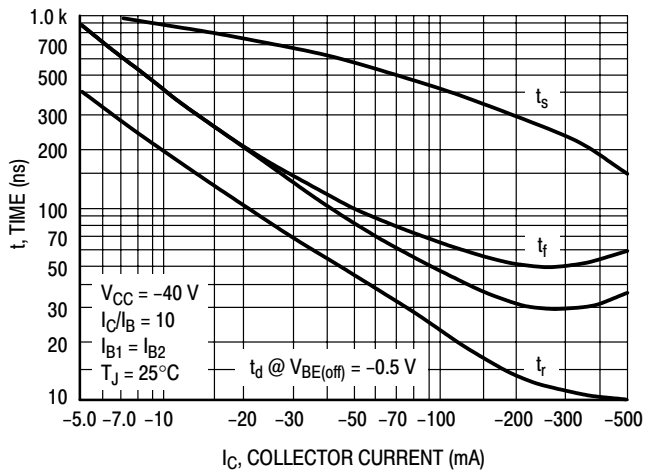


Figure 4. Switching Time

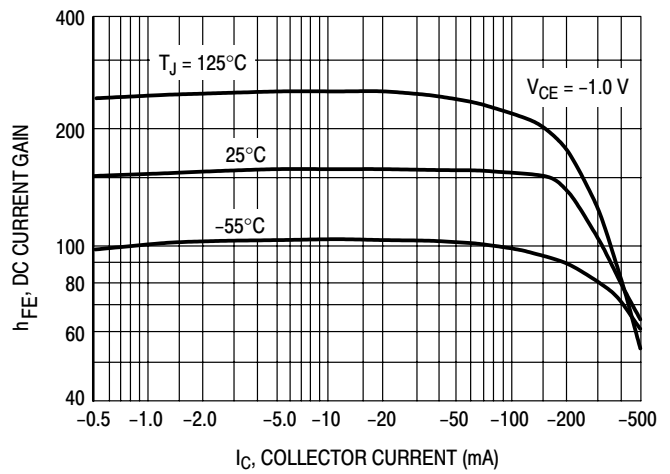


Figure 5. DC Current Gain

MMBTA55 thru MMBTA56

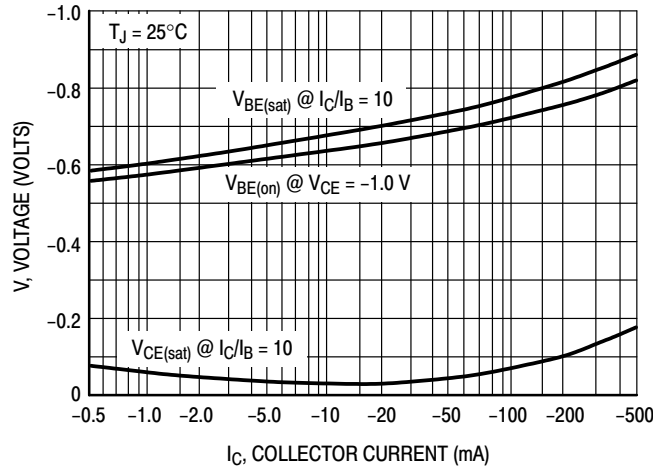


Figure 6. "ON" Voltages

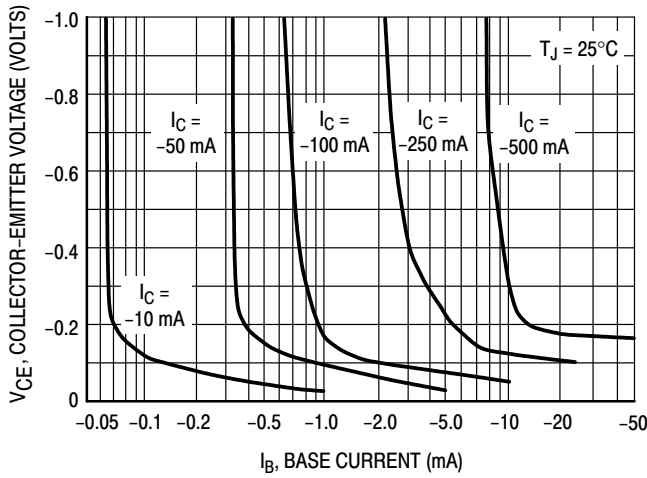


Figure 7. Collector Saturation Region

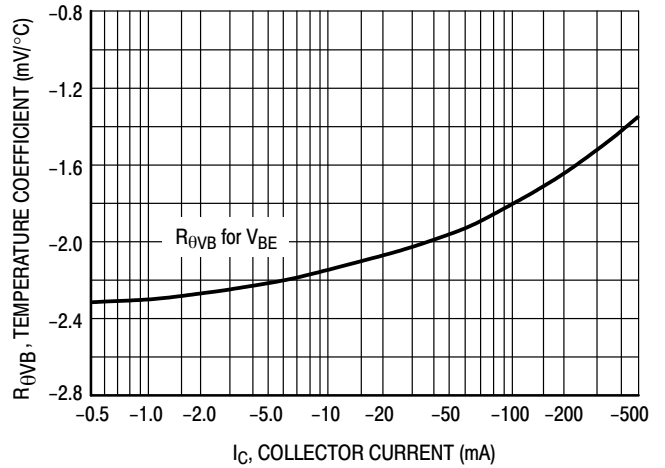


Figure 8. Base-Emitter Temperature Coefficient



TM

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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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