



Micro Commercial Components



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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
- Moisture 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
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OFF CHARACTERISTICS

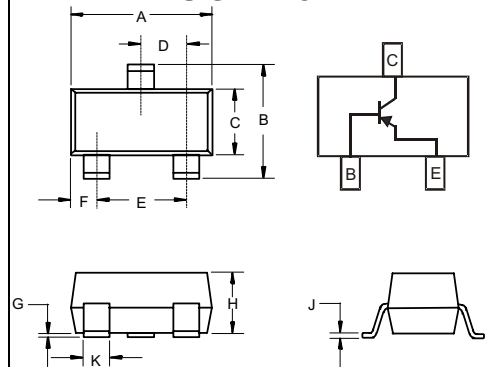
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ⁽¹⁾ ($I_C=1.0mA$, $I_B=0$)	MMBTA55 MMBTA56	60 80	---	Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=100\mu A$, $I_C=0$)		4.0	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=60Vdc$, $I_E=0$)	MMBTA55 MMBTA56	---	0.1	μA
I_{CES}	Emitter Cutoff Current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

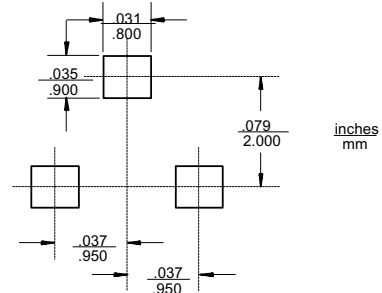
PNP General Purpose Amplifier

SOT-23



DIM	DIMENSIONS				NOTE
	INCHES		MM		
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

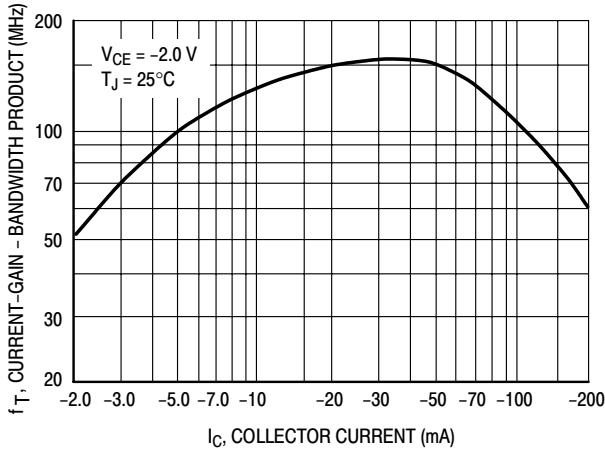


Figure 2. Current-Gain — Bandwidth Product

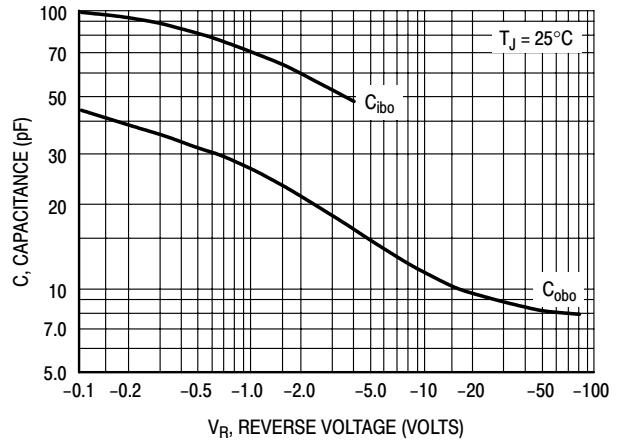


Figure 3. Capacitance

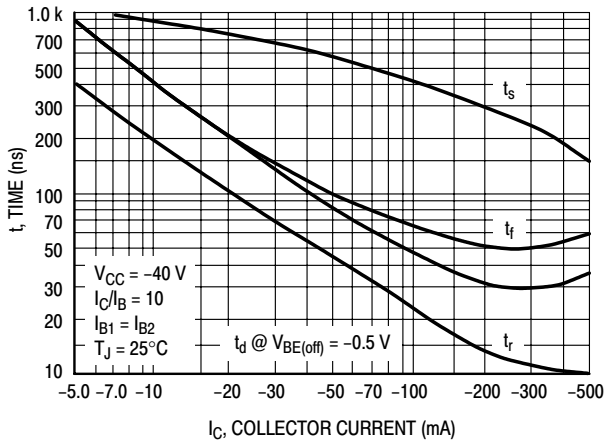


Figure 4. Switching Time

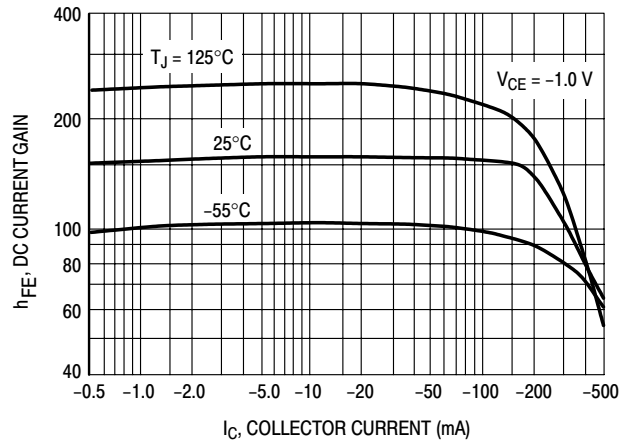


Figure 5. DC Current Gain

MMBTA55 thru MMBTA56

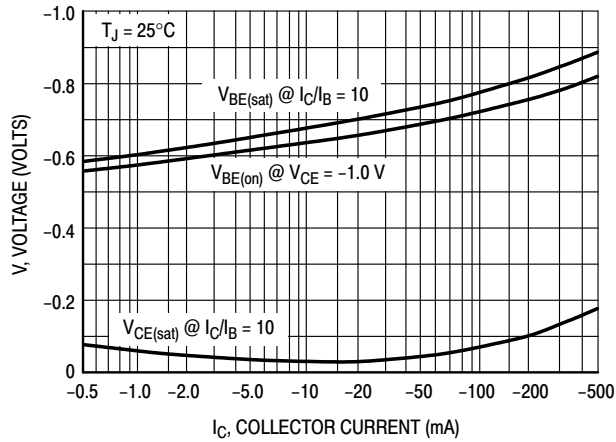


Figure 6. "ON" Voltages

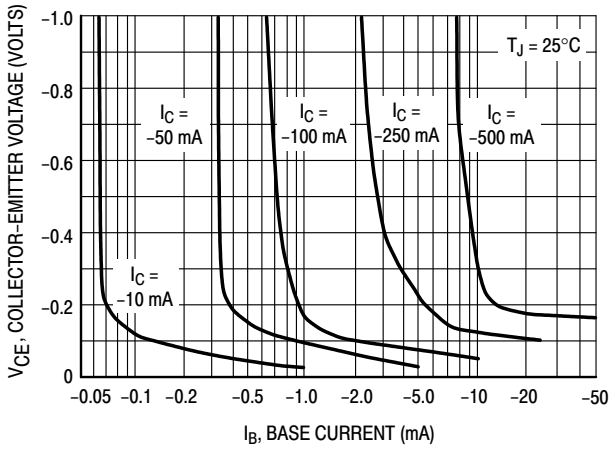


Figure 7. Collector Saturation Region

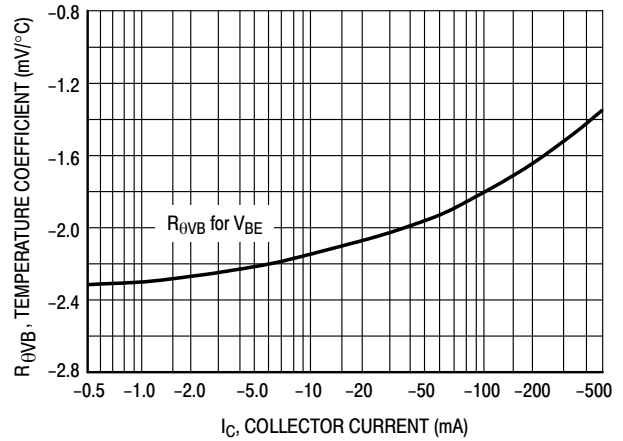


Figure 8. Base-Emitter Temperature Coefficient



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Ordering Information :

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

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