



Micro Commercial Components

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MMBTA63 MMBTA64

Features

- This device is designed for applications requiring extremely high current gain at 500mA.
- Marking : MMBTA63: 2U
MMBTA64: 2V
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

Maximum Ratings

Symbol	Rating	Rating	Unit
V_{CEO}	Collector-Emitter Voltage	30	V
V_{CBO}	Collector-Base Voltage	30	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current, Continuous	0.5	A
T_J	Operating Junction Temperature	-55 to +150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Thermal Characteristics

Symbol	Rating	Max	Unit
P_C	Collector Power Dissipation*	300	mW
R_{JA}	Thermal Resistance, Junction to Ambient	417	°C/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

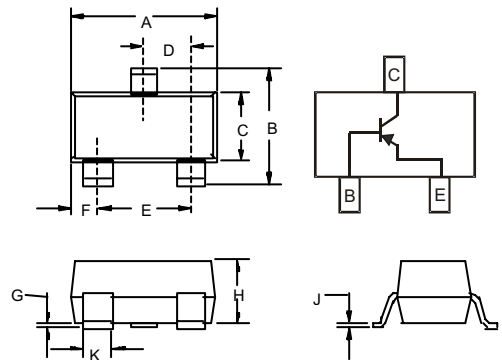
$V_{(BR)CEO}$	Collector-base breakdown voltage ($I_C=100\mu A$, $I_E=0$)	30	---	Vdc
$V_{(BR)CBO}$	Collector-emitter breakdown voltage ($I_C=100\mu A$, $I_B=0$)	30	---	Vdc
$V_{(BR)EBO}$	Emitter-base breakdown voltage ($I_E=100\mu A$, $I_C=0$)	10	---	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=30Vdc$, $I_E=0$)	---	100	nAdc
I_{EBO}	Emitter Cutoff Current ($V_{EB}=10Vdc$, $I_C=0$)	---	100	nAdc

ON CHARACTERISTICS

h_{FE1}	DC Current Gain ($V_{CE}=5.0Vdc$, $I_C=10mA$)	MMBTA63 MMBTA64	5000 10000	---	---
h_{FE2}	DC Current Gain ($V_{CE}=5.0Vdc$, $I_C=100mA$)	MMBTA63 MMBTA64	10000 20000	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=100mA$, $I_B=0.1mA$)	---	---	1.5	Vdc
$V_{BE(sat)}$	Base-Emitter On Voltage ($I_C=100mA$, $V_{CE}=5.0Vdc$)	---	---	2.0	Vdc
f_T	Current-Gain—Bandwidth Product ($I_C=10mA$, $V_{CE}=5.0Vdc$, $f=100MHz$)	---	---	125	MHz

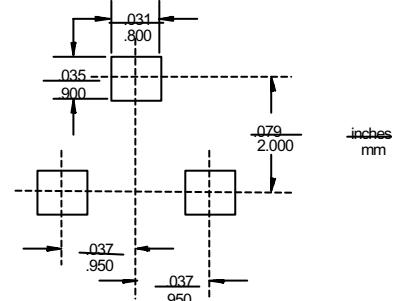
PNP Darlington Transistor

SOT-23



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



MMBTA63, MMBTA64

Typical Characteristics

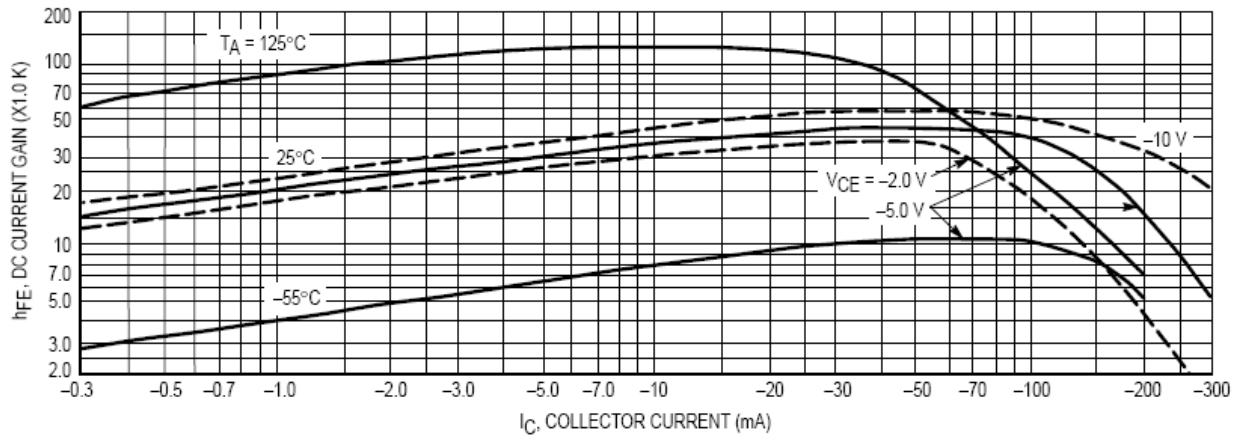


Figure 1. DC Current Gain

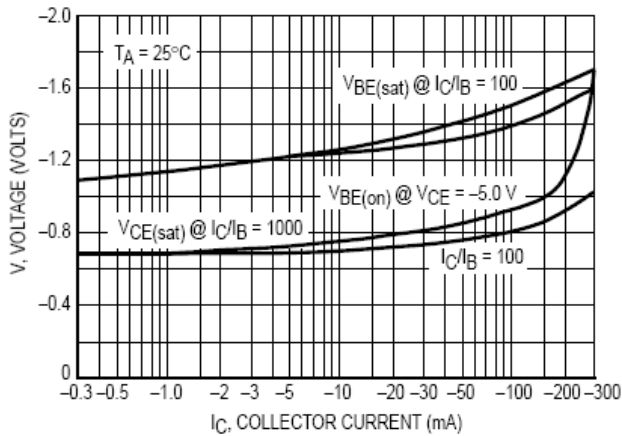


Figure 2. "On" Voltage

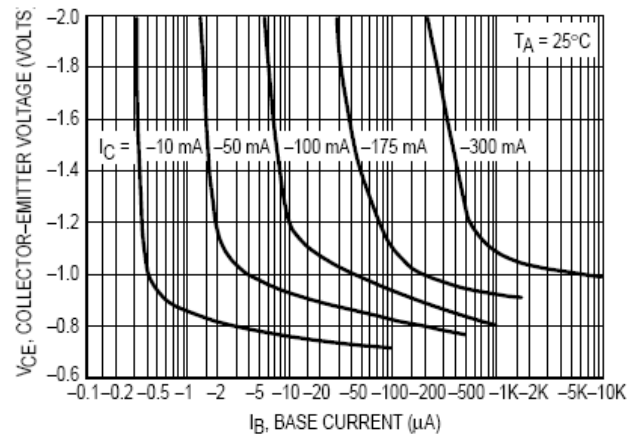


Figure 3. Collector Saturation Region

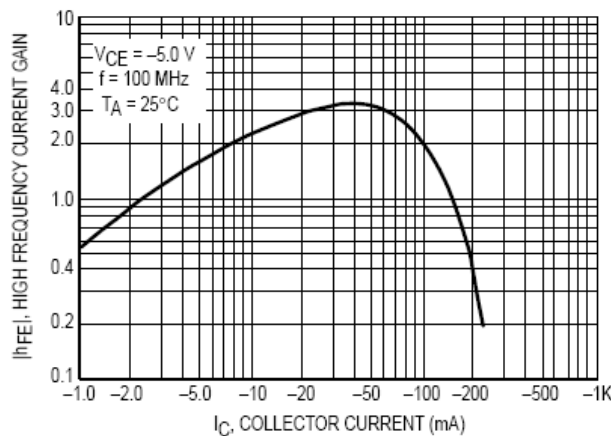


Figure 4. High Frequency Current Gain



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Ordering Information

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