



Micro Commercial Components

Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

MMBT4403

Features

- Operating and Storage Junction Temperatures: -55°C to 150°C
- Capable of 350mWatts of Power Dissipation
- Surface Mount SOT-23 Package
- $I_C = -600\text{mA}$
- Case Material: Molded Plastic. UL Flammability Classificatio Rating 94-0 and MSL Rating 1
- Marking: 2T/M3A

PNP General Purpose Amplifier

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ($I_C = 1.0\text{mA}$, $I_B = 0$)	40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C = 100\mu\text{A}$, $I_E = 0$)	40		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E = 100\mu\text{A}$, $I_C = 0$)	5.0		Vdc
I_{BL}	Base Cutoff Current ($V_{CE} = 3.0\text{Vdc}$, $V_{BE} = 3.0\text{Vdc}$)		0.1	μA
I_{CEX}	Collector Cutoff Current ($V_{CE} = 3.0\text{Vdc}$, $V_{BE} = 3.0\text{Vdc}$)		0.1	μA

ON CHARACTERISTICS

h_{FE}	DC Current Gain* ($I_C = 0.1\text{mA}$, $V_{CE} = 1.0\text{Vdc}$) ($I_C = 1.0\text{mA}$, $V_{CE} = 1.0\text{Vdc}$) ($I_C = 10\text{mA}$, $V_{CE} = 1.0\text{Vdc}$) ($I_C = 150\text{mA}$, $V_{CE} = 2.0\text{Vdc}$) ($I_C = 500\text{mA}$, $V_{CE} = 2.0\text{Vdc}$)	30 60 100 100 20	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C = 150\text{mA}$, $I_B = 15\text{mA}$) ($I_C = 500\text{mA}$, $I_B = 50\text{mA}$)		0.4 0.75	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C = 150\text{mA}$, $I_B = 15\text{mA}$) ($I_C = 500\text{mA}$, $I_B = 50\text{mA}$)	0.75	0.95 1.30	Vdc

SMALL-SIGNAL CHARACTERISTICS

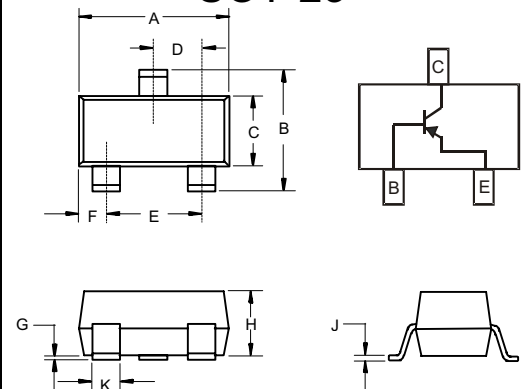
f_T	Current Gain-Bandwidth Product ($I_C = 20\text{mA}$, $V_{CE} = 10\text{Vdc}$, $f = 100\text{MHz}$)	200		MHz
C_{cb}	Output Capacitance ($V_{CB} = 10\text{Vdc}$, $I_E = 0$, $f = 1.0\text{MHz}$)		8.5	pF
C_{eb}	Input Capacitance ($V_{EB} = 0.5\text{Vdc}$, $I_C = 0$, $f = 1.0\text{MHz}$)		30.0	pF

SWITCHING CHARACTERISTICS

t_d	Delay Time	($V_{CC} = 3.0\text{Vdc}$, $V_{BE} = 2.0\text{Vdc}$)	15	ns
t_r	Rise Time	$I_C = 150\text{mA}$, $I_{B1} = 15\text{mA}$	20	ns
t_s	Storage Time	($V_{CC} = 3.0\text{Vdc}$, $I_C = 150\text{mA}$)	225	ns
t_f	Fall Time	$I_{B1} = I_{B2} = 15\text{mA}$	30	ns

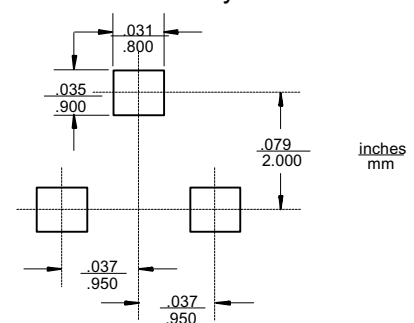
*Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

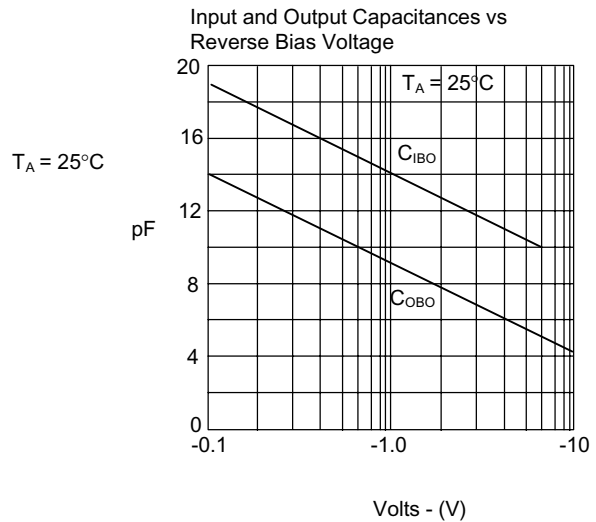
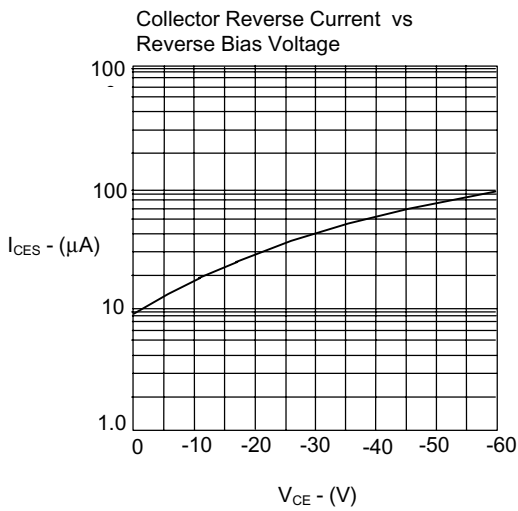
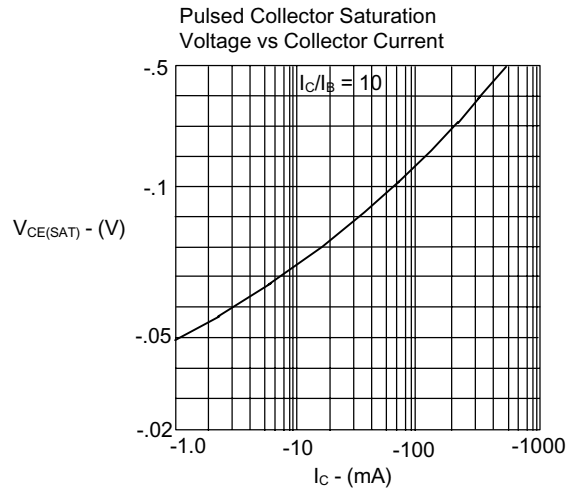
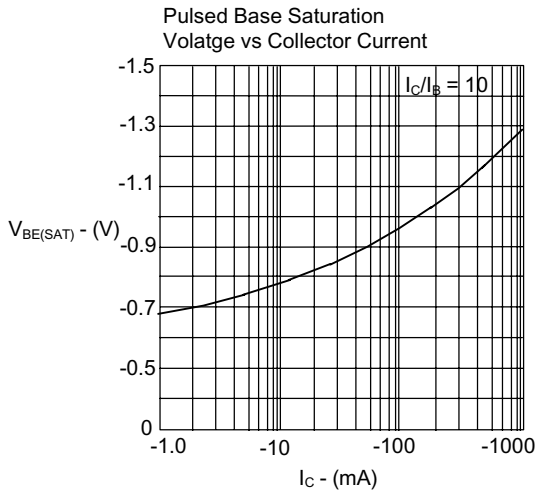
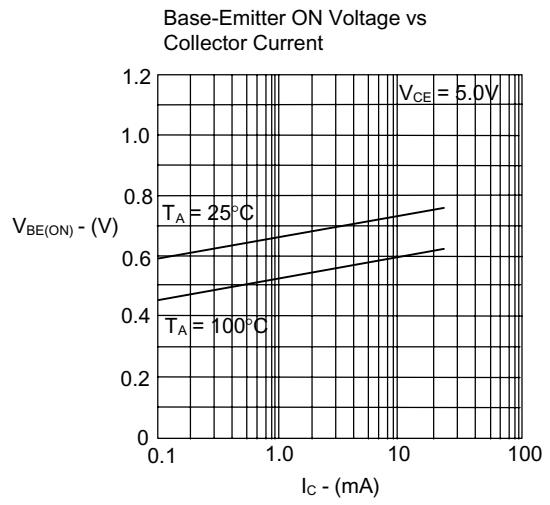
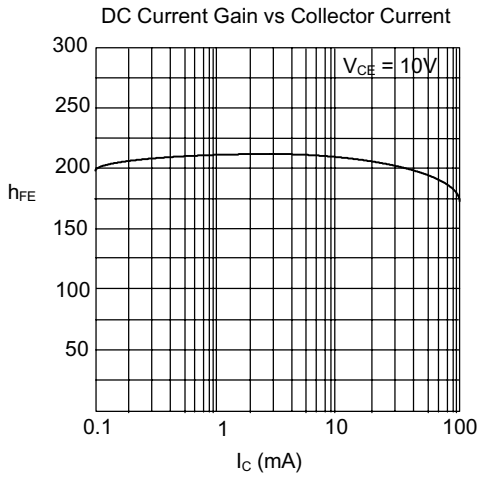
SOT-23



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

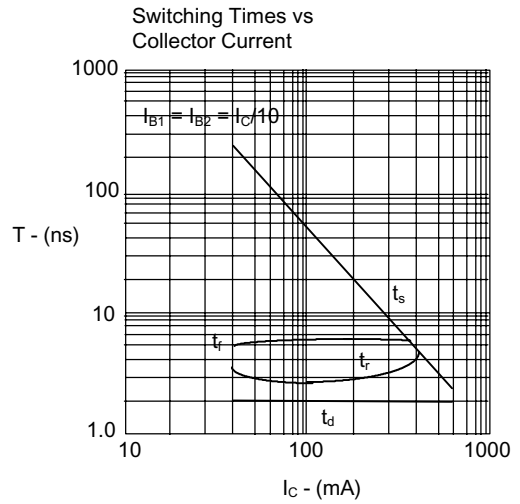
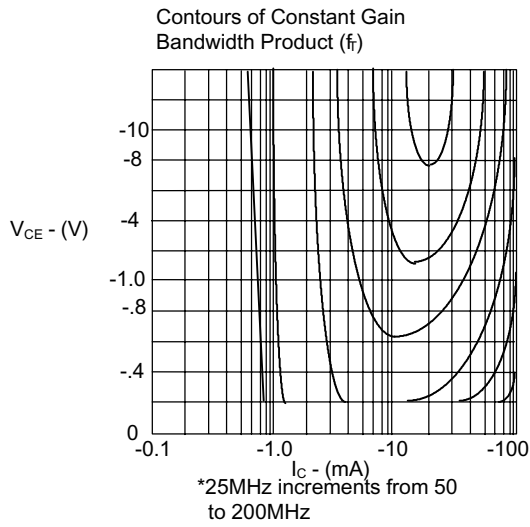
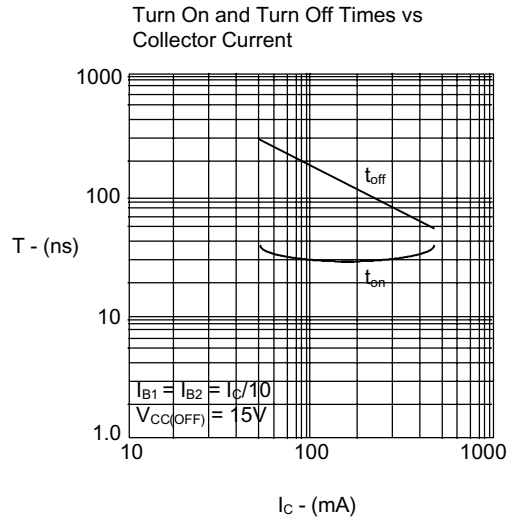
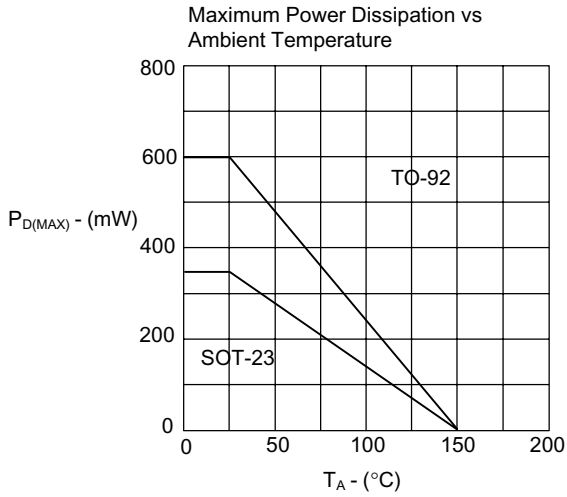




MMBT4403



Micro Commercial Components





Micro Commercial Components

Ordering Information

Device (Part Number)-TP	Packing 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.

*****APPLICATIONS DISCLAIMER*****

Products offer by *Micro Commercial Components Corp.* are not intended for use in Medical, Aerospace or Military Applications.