



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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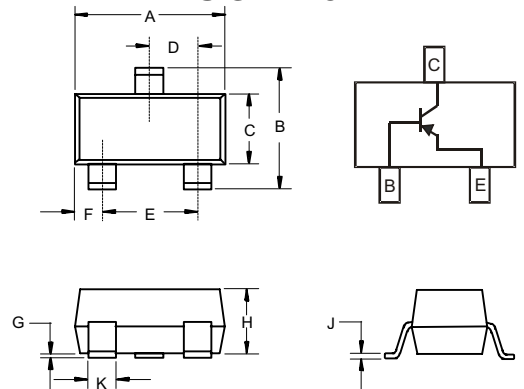
MMBT4403

Features

- Operating and Storage Junction Temperatures: -55°C to 150°C
- Capable of 350mWatts of Power Dissipation
- Surface Mount SOT-23 Package
- $I_C = -600\text{mA}$
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: 2T/M3A
- Halogen free available upon request by adding suffix "-HF"

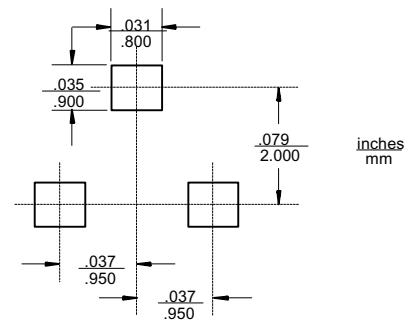
PNP General Purpose Amplifier

SOT-23



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



Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emmitter 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 ($V_{CE} = 30\text{Vdc}$, $V_{BE} = 3.0\text{Vdc}$)		0.1	μA
I_{CEX}	Collector Cutoff Current ($V_{CE} = 30\text{Vdc}$, $V_{BE} = 3.0\text{Vdc}$)		0.1	μA

ON CHARACTERISTICS

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

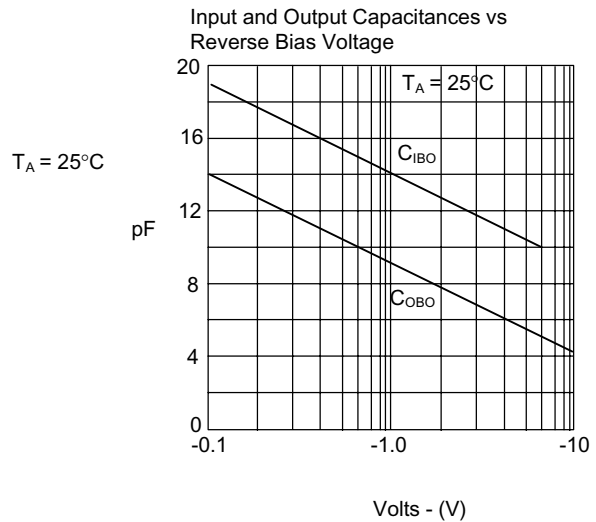
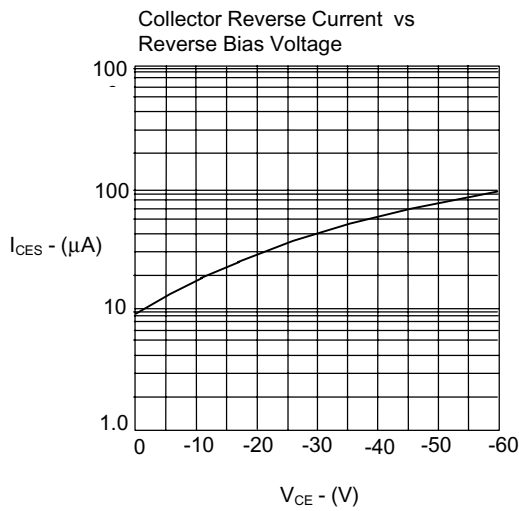
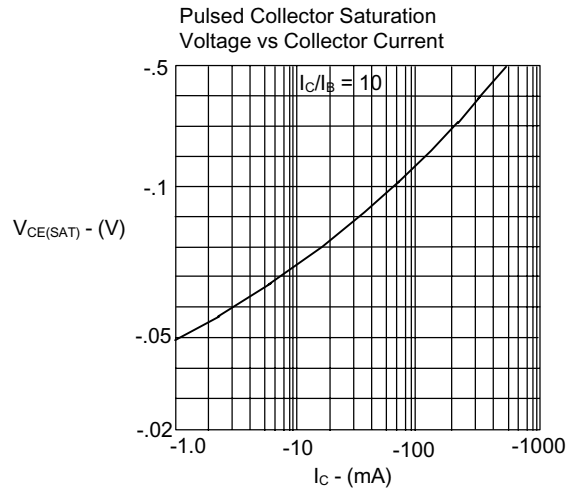
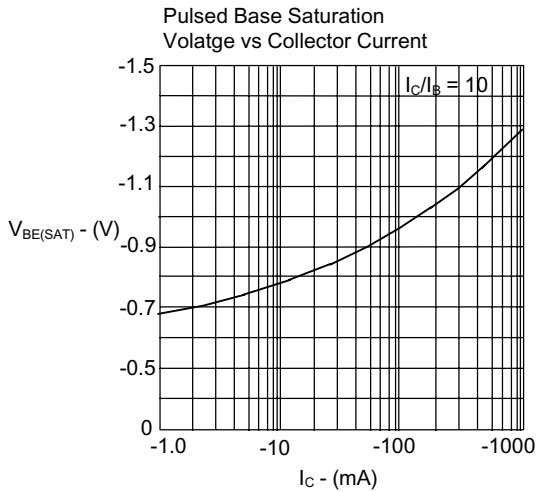
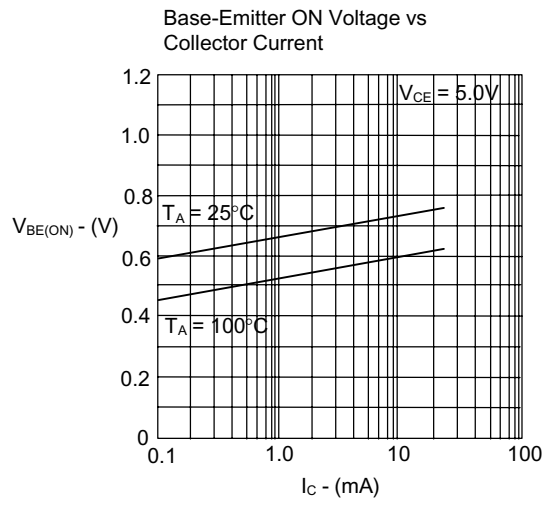
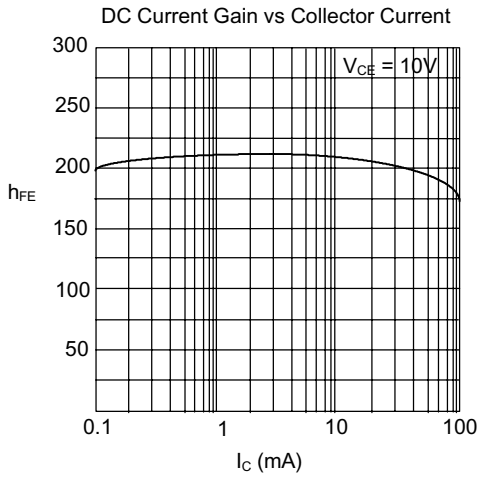
SMALL-SIGNAL CHARACTERISTICS

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

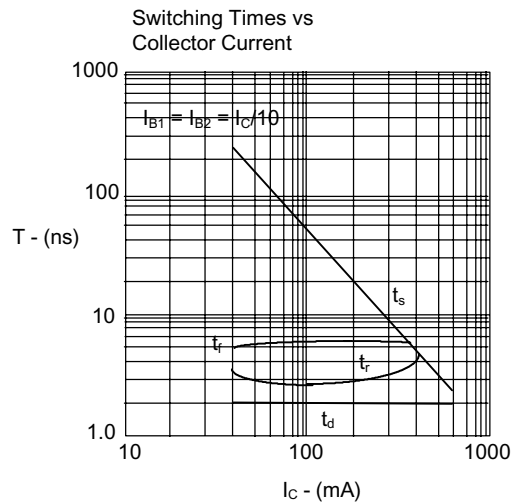
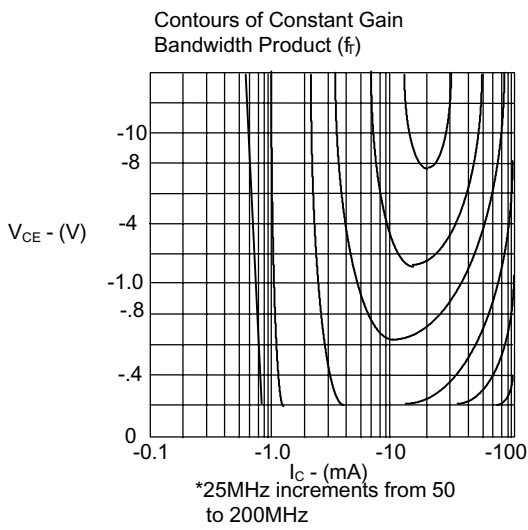
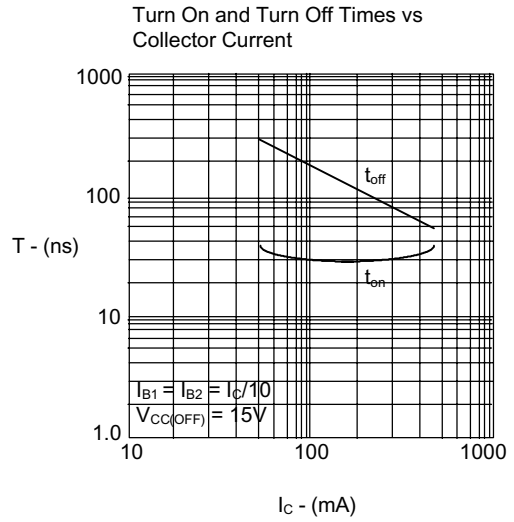
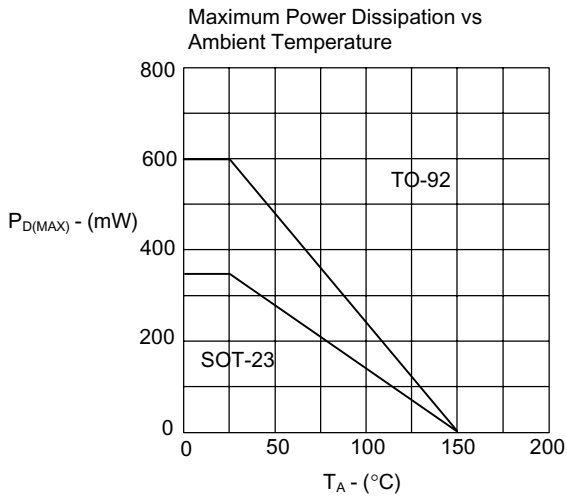
*Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$



MMBT4403



Micro Commercial Components





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Ordering Information :

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

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

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