

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

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

ON CHARACTERISTICS

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	300	
		20		
$V_{CE(sat)}$	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

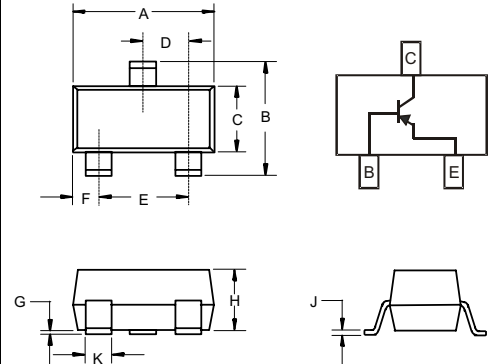
SWITCHING CHARACTERISTICS

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 $\leq 2.0\%$

PNP General Purpose Amplifier

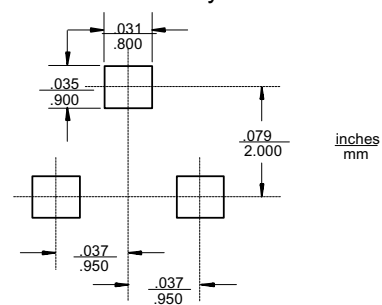
SOT-23



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	

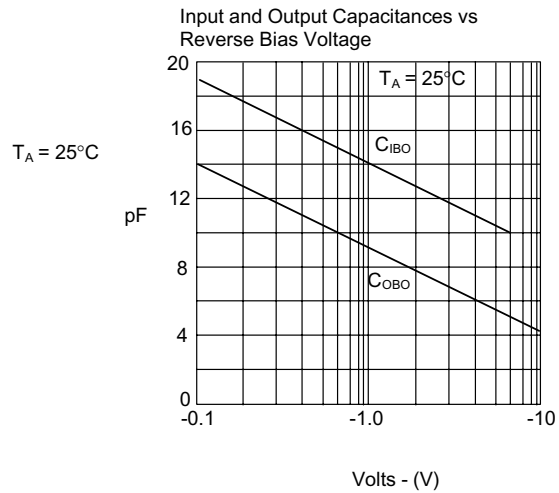
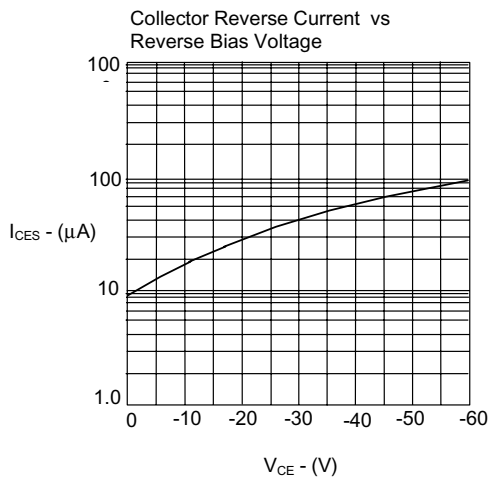
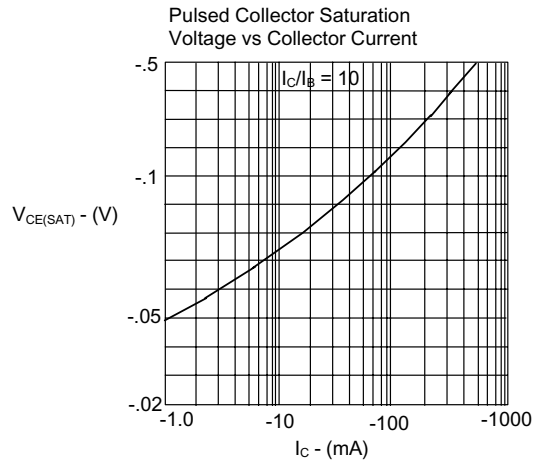
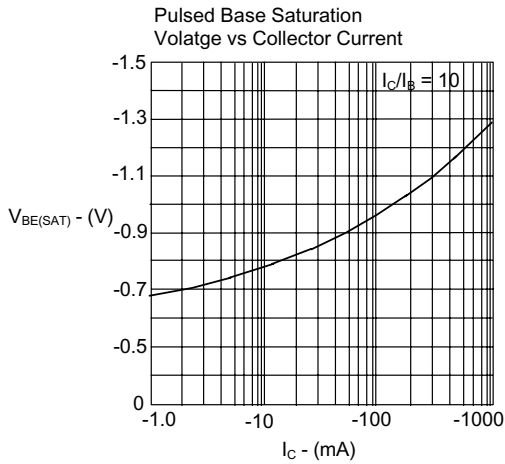
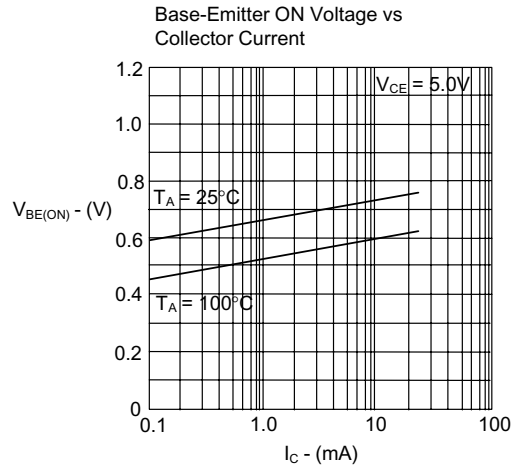
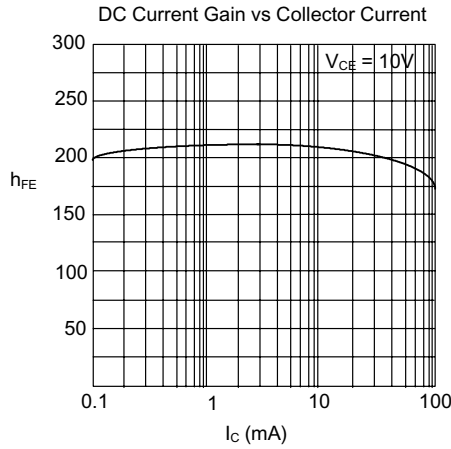
Suggested Solder Pad Layout



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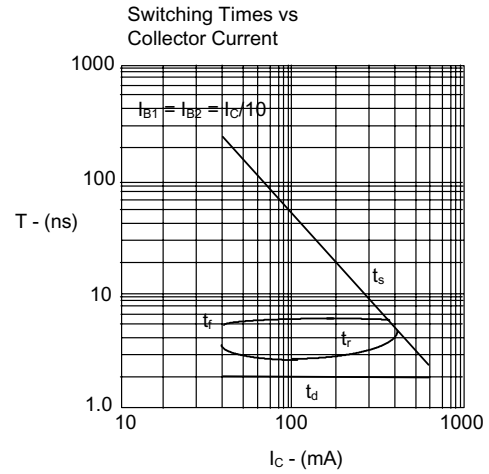
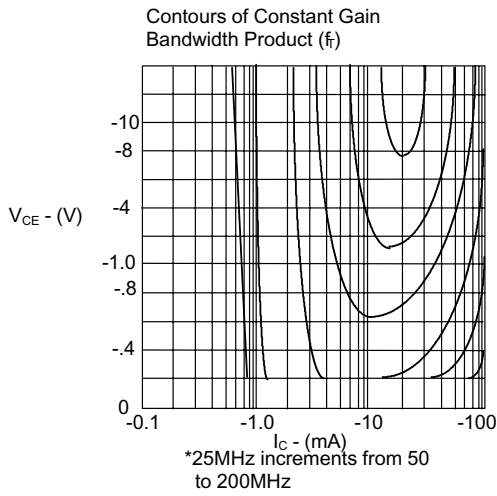
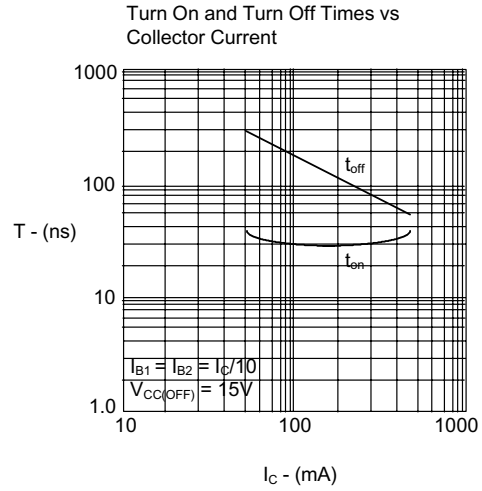
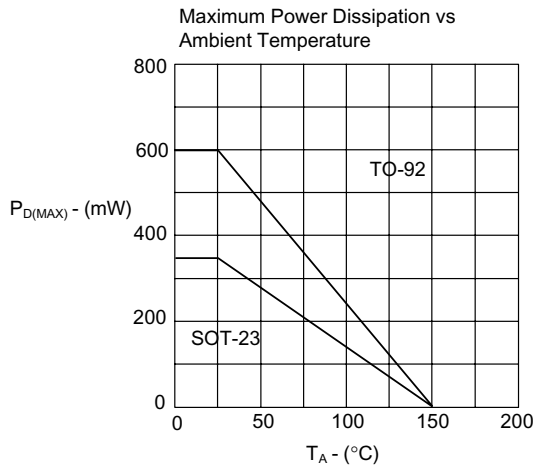


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Ordering Information :

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

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