

Micro Commercial Components



Micro Commercial Components 20736 Marilla Street Chatsworth CA 91311

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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
- Ic=-600mA
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1
- Marking:2T/M3A

Halogen free available upon request by adding suffix "-HF" **Electrical Characteristics @ 25°C Unless Otherwise Specified**

Symbol	Parameter	Min	Max	Units
OFF CHARA	OFF CHARACTERISTICS			
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* (I _C =1.0mAdc, I _B =0)	40		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I _C =100μAdc, I _E =0)	40		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I _E =100μAdc, I _C =0)	5.0		Vdc
I _{BL}	Base Cutoff Current (V _{CE} =30Vdc, V _{BE} =3.0Vdc)		0.1	μAdc
I _{CEX}	Collector Cutoff Current (V _{CE} =30Vdc, V _{BE} =3.0Vdc)		0.1	μAdc

ON CHARACTERISTICS

h _{FE}	DC Current Gain*				
	(I _C =0.1mAdc, V _{CE} =1.0Vdc)	30			
	(I _C =1.0mAdc, V _{CE} =1.0Vdc)	60			
	(I _C =10mAdc, V _{CE} =1.0Vdc)	100			
	(I _C =150mAdc, V _{CE} =2.0Vdc)	100	0 300		
	$(I_C=500 \text{mAdc}, V_{CE}=2.0 \text{Vdc})$	20			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage				
, ,	(I _C =150mAdc, I _B =15mAdc)		0.4	Vdc	
	$(I_C=500\text{mAdc}, I_B=50\text{mAdc})$		0.75		
$V_{BE(sat)}$	Base-Emitter Saturation Voltage				
, , ,	(I _C =150mAdc, I _B =15mAdc)	0.75	0.95	Vdc	
	(I _C =500mAdc, I _B =50mAdc)		1.30		

SMALL-SIGNAL CHARACTERISTICS

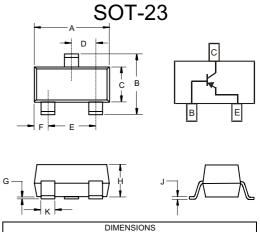
f⊤	Current Gain-Bandwidth Product (I _C =20mAdc, V _{CE} =10Vdc, f=100MHz)	200		MHz
C _{cb}	Output Capacitance (V _{CB} =10Vdc, I _E =0, f=1.0MHz)		8.5	pF
C _{eb}	Input Capacitance (V _{EB} =0.5Vdc, I _C =0, f=1.0MHz)		30.0	pF

SWITCHING CHARACTERISTICS

t _d	Delay Time	(V _{CC} =3.0Vdc, V _{BE} =2.0Vdc	15	ns
t _r	Rise Time	I _C =150mAdc, I _{B1} =15mAdc)	20	ns
t _s	Storage Time	(V _{CC} =3.0Vdc, I _C =150mAdc	225	ns
t _f	Fall Time	I _{B1} =I _{B2} =15mAdc)	30	ns

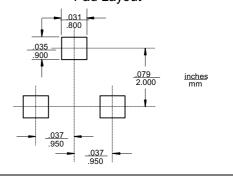
*Pulse Width ≤ 300µs, Duty Cycle ≤ 2.0%

PNP General Purpose Amplifier



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
Α	.110	.120	2.80	3.04	
В	.083	.104	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
Е	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
Ι	.035	.044	.89	1.12	
٦	.003	.007	.085	.180	
K	.015	.020	.37	.51	

Suggested Solder Pad Layout

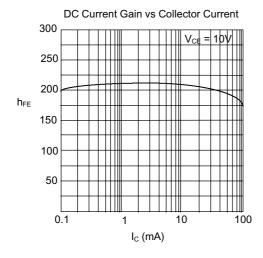


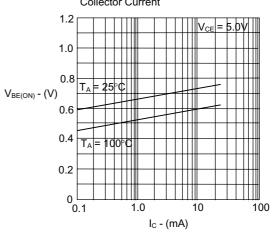
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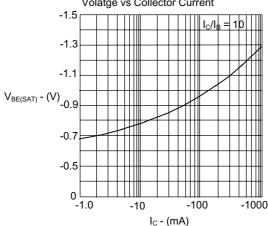
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Base-Emitter ON Voltage vs Collector Current

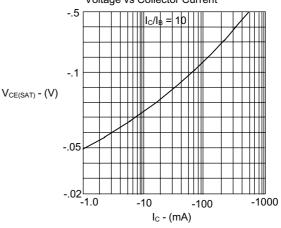




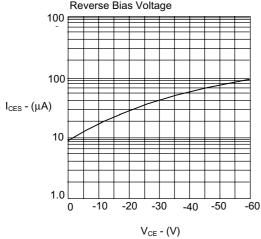
Pulsed Base Saturation Volatge vs Collector Current



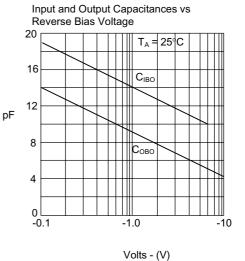




Collector Reverse Current vs Reverse Bias Voltage



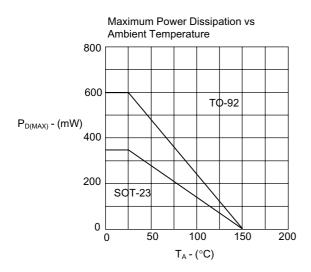
T_A = 25°C



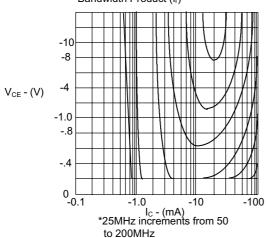
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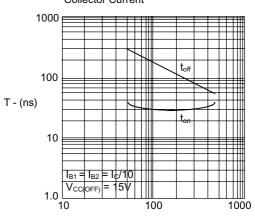
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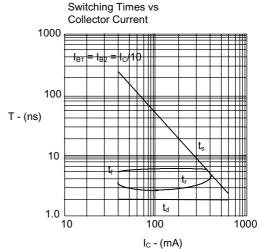




Turn On and Turn Off Times vs Collector Current



I_C - (mA)





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Ordering Information:

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

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

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