



Micro Commercial Components

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MMBT4124

NPN General Purpose Amplifier

Features

- Surface Mount SOT-23 Package
- Capable of 330mWatts of Power Dissipation, $I_C=200mA$
- Operating Junction Temperature: $-55^{\circ}C$ to $+150^{\circ}C$
- Storage Temperature: $-55^{\circ}C$ to $+150^{\circ}C$
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Marking: ZC

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage* ($I_C=1mA$, $I_B=0$)	25		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=10\mu A$, $I_E=0$)	30		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ($I_E=10\mu A$, $I_C=0$)	5.0		Vdc
I_{CBO}	Collector cut-off current ($V_{CB}=20Vdc$, $I_E=0$)		50	nAdc
I_{EBO}	Emitter cut-off current ($V_{EB}=3Vdc$, $I_C=0$)		50	nAdc

ON CHARACTERISTICS

h_{FE}	DC Current Gain* ($I_C=2.0mA$, $V_{CE}=1Vdc$) ($I_C=50mA$, $V_{CE}=1Vdc$)	120 60	360	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_C=50mA$, $I_B=5mA$)		0.3	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ($I_C=50mA$, $I_B=5mA$)		0.95	Vdc

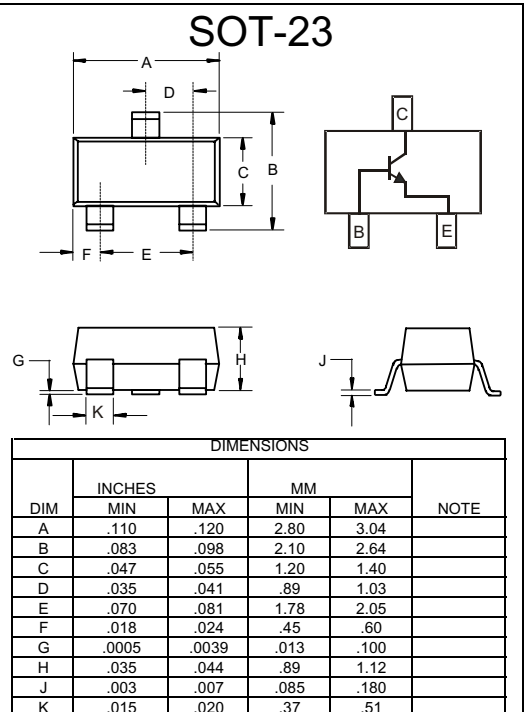
SMALL-SIGNAL CHARACTERISTICS

f_T	Current Gain-Bandwidth Product ($I_C=10mA$, $V_{CE}=20Vdc$, $f=100MHz$)	300		MHz
C_{obo}	Output Capacitance ($V_{CB}=5Vdc$, $I_E=0$, $f=140KHz$)		4.0	pF
C_{ibo}	Input Capacitance ($V_{BE}=0.5Vdc$, $I_E=0$, $f=140KHz$)		8.0	pF
NF	Noise Figure ($I_C=200\mu A$, $V_{CE}=5Vdc$, $R_g=2.0k\Omega$ $f=30Hz$ to $15KHz$ at 3dB Points)		6.0	dB

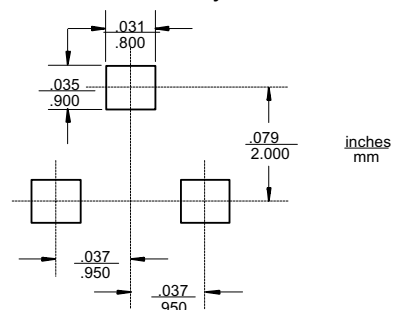
SWITCHING CHARACTERISTICS

t_d	Delay Time	$(V_{CC}=3Vdc, V_{BE}=-0.5Vdc)$	24	ns
t_r	Rise Time	$(I_C=10mA, I_{B1}=1.0mA)$	13	ns
t_s	Storage Time	$(V_{CC}=3.0Vdc, I_C=10mA)$	125	ns
t_f	Fall Time	$(I_{B1}=I_{B2}=1mA)$	11	ns

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



Suggested Solder Pad Layout





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Ordering Information

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

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