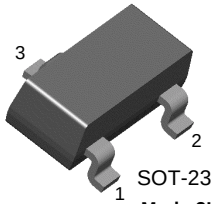
FAIRCHILD
SEMICONDUCTOR®

MMBTH34

NPN General Purpose Amplifier

- This device is designed for common-emitter low noise amplifier and mixer applications with collector currents in the 100mA to 20mA range to 300MHz, and low frequency drift common-base VHF oscillator applications with high output levels for driving FET mixers.
- Sourced from process 47.
- See MPSH11 for characteristics.



SOT-23
Mark: 3K

1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	40	V
V_{CBO}	Collector-Base Voltage	40	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Collector current - Continuous	50	mA
T_J, T_{stg}	Junction and Storage Temperature	-55 ~ +150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)CEO}$	Collector-Emitter Sustaining Voltage *	I_C = 1.0mA, I_B = 0	30			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = 100μA, I_E = 0	40			
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = 10μA, I_C = 0	4.0			VV
I_{CBO}	Collector Cutoff Current	V_{CB} = 30V, I_E = 0			50	nA
On Characteristics						
h_{FE}	DC Current Gain	I_C = 20mA, V_{CE} = 2V	15			
Small Signal Characteristics						
f_T	Current Gain Bandwidth Product	I_C = 15mA, V_{CE} = 10V, f = 100MHz	500			MHz

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

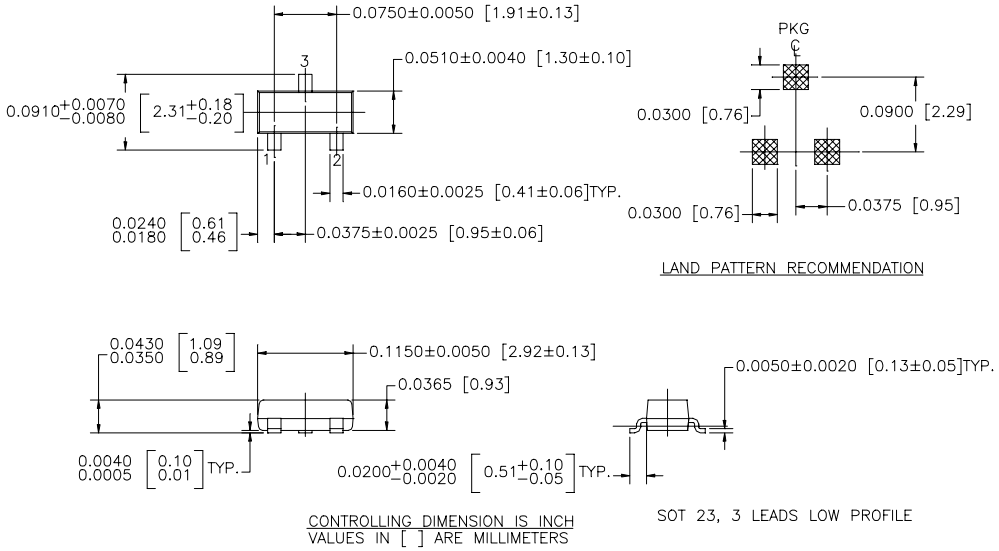
Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	225 1.8	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case		°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	556	°C/W

* Device mounted on FR-4 PCB 1.6" × 1.6" × 0.06"

Package Dimensions

SOT-23



NOTE : UNLESS OTHERWISE SPECIFIED

1. STANDARD LEAD FINISH 150 MICROINCHES / 3.81 MICROMETERS MINIMUM TIN / LEAD (SOLDER) ON ALLOY 42
2. REFERENCE JEDEC REGISTRATION TO−236, VARIATION AB, ISSUE G, DATED JUL 1993

Dimensions in Millimeters

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CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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