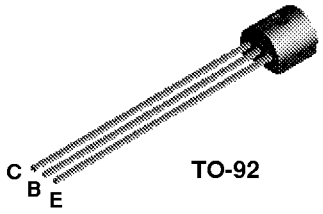
FAIRCHILD SEMICONDUCTOR™

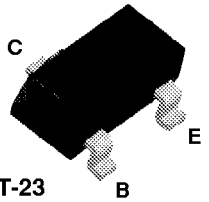
Discrete POWER & Signal Technologies

PN2484

MMBT2484



TO-92



SOT-23
Mark: 1U

NPN General Purpose Amplifier

This device is designed for low noise, high gain, general purpose amplifier applications at collector currents from 1μ to 50 mA. Sourced from Process 07. See 2N5088 for characteristics.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	60	V
V_{CBO}	Collector-Base Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current - Continuous	100	mA
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

TA = 25°C unless otherwise noted

Symbol	Characteristic	Max		Units
		PN2484	*MMBT2484	
P_D	Total Device Dissipation Derate above 25°C	625 5.0	350 2.8	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3		°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	357	°C/W

*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06."

NPN General Purpose Amplifier
(continued)

Electrical Characteristics
TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 10 µA, I_B = 0	60		V
BV_{CEO}	Collector-Emitter Breakdown Voltage*	I_C = 10 mA, I_E = 0	60		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_C = 10 µA, I_E = 0	5.0		V
I_{CBO}	Collector Cutoff Current	V_{CB} = 45 V, I_E = 0 V_{CB} = 45 V, I_E = 0, T_A = 150°C		10 10	nA µA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 5.0 V, I_C = 0		10	nA
ON CHARACTERISTICS					
h_{FE}	DC Current Gain	I_C = 1.0 mA, V_{CE} = 5.0 V I_C = 10 mA, V_{CE} = 5.0 V*	250	 800	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 1.0 mA, I_B = 0.1 mA		0.35	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C = 1.0 mA, V_{CE} = 5.0 V		0.95	V
SMALL SIGNAL CHARACTERISTICS					
C_{obo}	Output Capacitance	V_{CB} =5.0 V, f = 140 kHz		6.0	pF
C_{ibo}	Input Capacitance	V_{EB} = 0.5 V, f = 140 kHz		6.0	pF
NF	Noise Figure	I_C = 10 µA, V_{CE} = 5.0 V, R_S = 10k,f = 1.0 kHz,BW =200 Hz		3.0	dB

*Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 3.0%