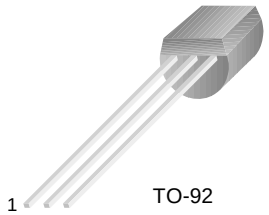
FAIRCHILD
SEMICONDUCTOR®

PN5134

NPN General Purpose Amplifier

- This device is designed for use as general purpose amplifiers and switches requiring collector currents to 300mA.



TO-92

1. Emitter 2. Base 3. Collector

Absolute Maximum Ratings* T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	10	V
V_{CBO}	Collector-Base Voltage	20	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Collector Current - Continuous	500	mA
$T_{J,}$ T_{STG}	Operating and Storage Junction Temperature Range	- 55 ~ 150	°C

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

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

Electrical Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage *	I_C = 10mA, I_B = 0	10		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = 10μA, I_E = 0	20		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = 10μA, I_C = 0	3.5		V
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	I_C = 10μA	20		V
I_{CBO}	Collector Cut-off Current	V_{CB} = 15V, I_E = 0, T_A = 65°C		10	μA
I_{CES}	Collector Cutoff Current	V_{CB} = 15V, I_C = 0		0.4	μA
On Characteristics					
h_{FE}	DC Current Gain	V_{CE} = 1.0V, I_C = 10mA V_{CE} = 0.4V, I_C = 30mA	20 15	150	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 10mA, I_B = 1.0mA I_C = 10mA, I_B = 3.3mA		0.25 0.20	V V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 10mA, I_B = 1.0mA I_C = 10mA, I_B = 3.3mA	0.70 0.72	0.9 1.1	V V
Small Signal Characteristics					
C_{ob}	Output Capacitance	V_{CB} = 5.0V, f = 1.0MHz		4.0	pF
h_{fe}	Small Signal Current Gain	I_C = 10mA, V_{CE} = 10V, f = 100MHz	2.5		
Switching Characteristics					
t_s	Storage Time	I_C = I_{B1} = I_{B2} = 15mA		18	ns
t_{on}	Turn-on Time	V_{CC} = 3.0V, I_C = 10mA		18	ns
t_d	Delay Time	I_{B1} = 3.3mA		14	ns
t_r	Rise Time			12	ns
t_{off}	Turn-off Time	V_{CC} = 3.0V, I_C = 10mA		18	ns
t_s	Storage Time	I_{B1} = I_{B2} = 3.3mA		13	ns
t_f	Fall Time			13	ns

* Pulse Test: Pulse Width ≤ 300ms, 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	625 5.0	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	°C/W

Package Dimensions

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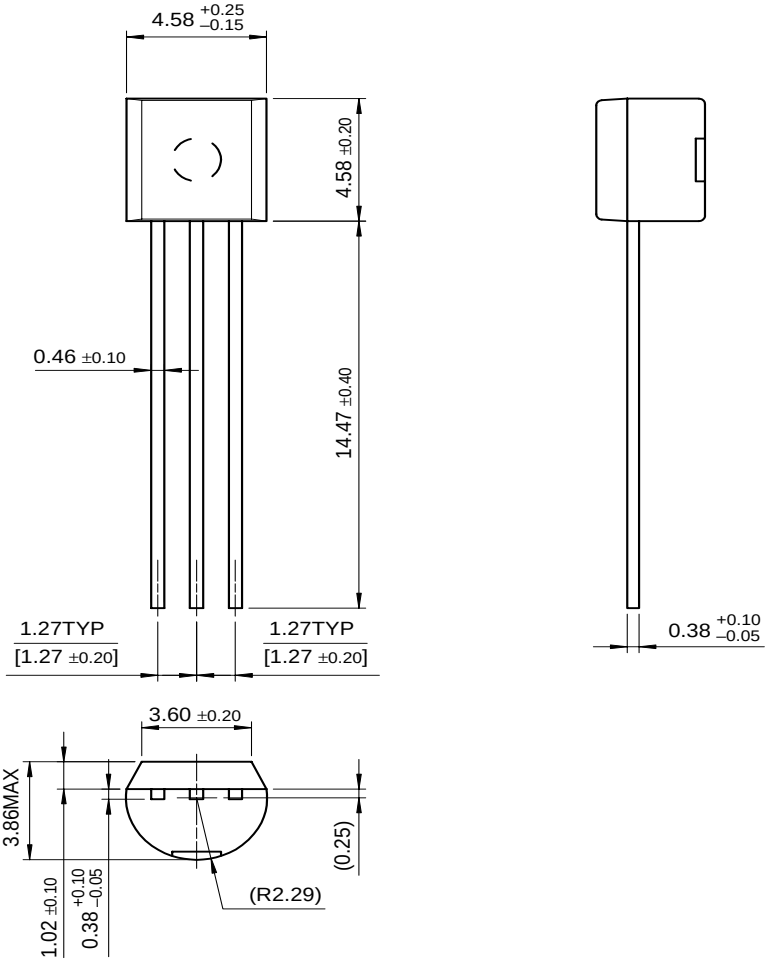

Dimensions in Millimeters

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