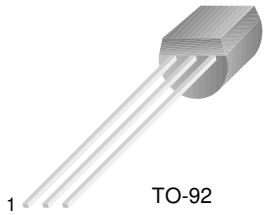
FAIRCHILD
SEMICONDUCTOR®

PN4117A

N-Channel Switch

- This device is designed for low current DC and audio application. These devices provide excellent performance as input stages for sub-picoamp instrumentation or any high impedance signal sources.
- Sourced from process 53.



TO-92

1. Drain 2. Source 3. Gate

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

Symbol	Parameter	Value	Units
V_{DG}	Drain-Gate Voltage	40	V
V_{GS}	Gate-Source Voltage	-40	V
I_{GF}	Forward Gate Current	50	mA
T_{STG}	Operating and storage Temperature Range	- 55 ~ 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 150degrees 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.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	V_{DS} = 0, I_G = -1μA	-40			V
V_{GS}(off)	Gate-Source Cutoff Voltage	V_{DS} = -10V, I_D = 1.0nA	-0.6		-1.8	V
I_{GSS}	Gate Reverse Current	V_{DS} = 0V, V_{GS} = -20V			-1.0	pA
On Characteristics						
I_{DSS}	Zero-Gate Voltage Drain Current *	V_{DS} = 10V, V_{GS} = 0	30		90	μA
Small Signal Characteristics						
gfs	Common Source Forward Transconductance	V_{DS} = 10V, V_{GS} = 0 f = 1.0KHz	70		210	mmhos
g_{OSS}	Common Source Output Conductance	V_{DS} = 10V, V_{GS} = 0 f = 1KHz			3.0	mmhos
$R_{E(YFS)}$	Common Source Forward Conductance	V_{DS} = 10V, V_{GS} = 0 f = 30MHz	60			mmhos
C_{ISS}	Input Capacitance	V_{DS} = 10V, V_{GS} = 0 f = 1.0KHz			3.0	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 10V, V_{GS} = 0 f = 1.0MHz			1.5	pF

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 1.0%

Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

Package Dimensions

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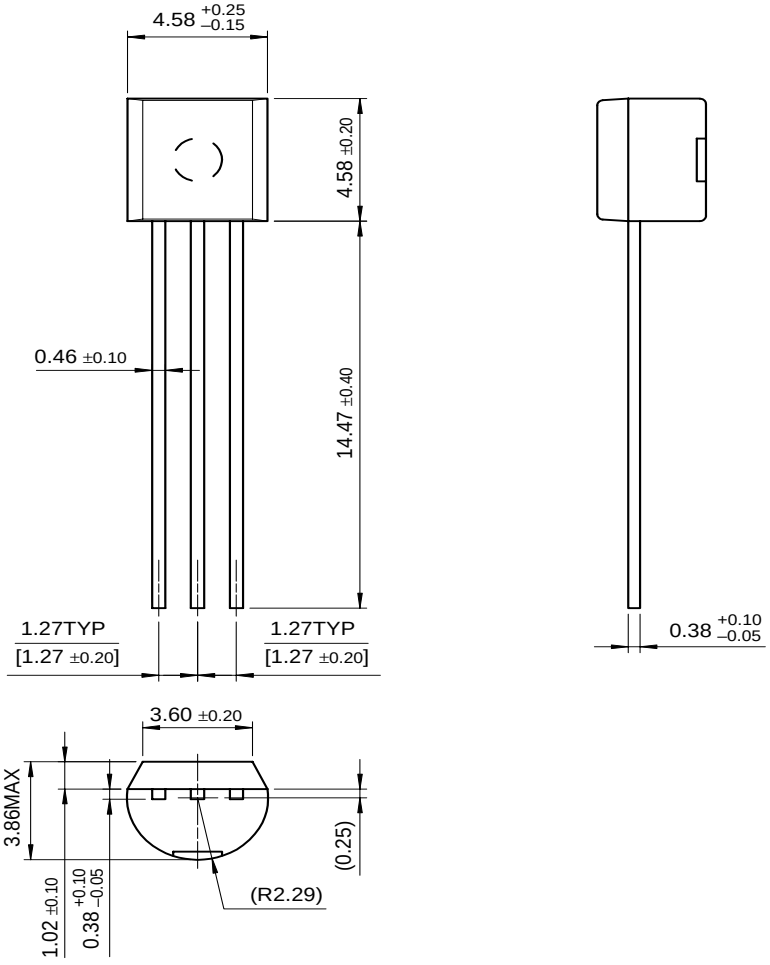

Dimensions in Millimeters

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CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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