Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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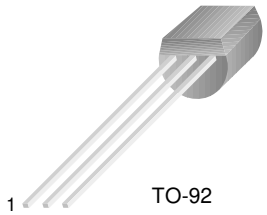
FAIRCHILD
SEMICONDUCTOR®

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

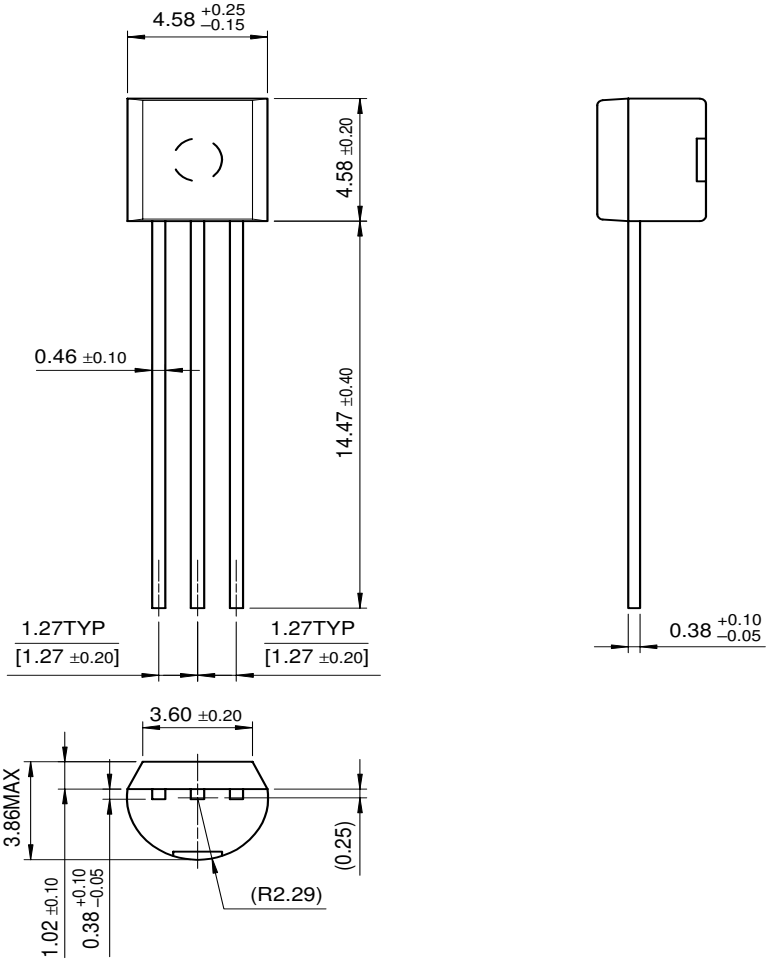
* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 1.0%

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

TO-92



Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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