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Fairchild Semiconductor
PN4861

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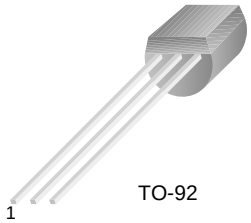
FAIRCHILD SEMICONDUCTOR®

September 2007

PN4861
N-Channel Switch

- This device is designed for electronic switching applications such as low ON resistance analog switching.
- Sourced from process 51.



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	30	V
V_{GS}	Gate-Source Voltage	-30	V
I_{GF}	Forward Gate Current	50	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ 150	°C

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

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

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	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

* Device mounted on FR-4 PCB 1.5" X 1.6" X 0.06"

Electrical Characteristics* T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	I_G = 1.0 μA, V_{DS} = 0 V	-30		V
I_{GSS}	Gate Reverse Current	V_{GS} = 15 V, V_{DS} = 0, T = 25°C T = 100°C		-0.25 -500	nA
$V_{GS(OFF)}$	Gate-Source Cut-off Voltage	V_{DS} = 15 V, I_D = 0.5 nA	-0.8	-4.0	V
On Characteristics					
I_{DSS}	Zero-Gate Voltage Drain Current *	V_{DS} = 15V, V_{GS} = 0	8	80	mA
$V_{DS(ON)}$	Drain-Source On Voltage	I_D = 5 mA		0.5	V
$R_{DS(ON)}$	Drain-Source On Voltage	V_{DS} = 0 V, V_{GS} = 0 V, f = 1kHz		60	Ω
Small Signal Characteristics					
C_{iss}	Input Capacitance	V_{DS} = 10V, V_{GS} = 0V, f = 1.0MHz		18	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 10V, V_{GS} = 0V, f = 1.0MHz		8	pF

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle = 2%

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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