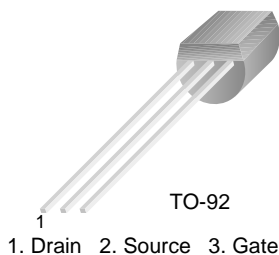


# PN4861

## N-Channel Switch

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



### Absolute Maximum Ratings\* $T_a=25^\circ\text{C}$ 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	$^\circ\text{C}$

\* 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 $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	625 5.0	mW mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$

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

**Electrical Characteristics\***  $T_a=25^{\circ}\text{C}$  unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
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**Off Characteristics**

$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = 1.0 \mu\text{A}$ , $V_{DS} = 0 \text{ V}$	-30		V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = 15 \text{ V}$ , $V_{DS} = 0$ , $T = 25^{\circ}\text{C}$ $T = 100^{\circ}\text{C}$		-0.25 -500	nA
$V_{GS(OFF)}$	Gate-Source Cut-off Voltage	$V_{DS} = 15 \text{ V}$ , $I_D = 0.5 \text{ nA}$	-0.8	-4.0	V

**On Characteristics**

$I_{DSS}$	Zero-Gate Voltage Drain Current *	$V_{DS} = 15 \text{ V}$ , $V_{GS} = 0$	8	80	mA
$V_{DS(ON)}$	Drain-Source On Voltage	$I_D = 5 \text{ mA}$		0.5	V
$R_{DS(ON)}$	Drain-Source On Voltage	$V_{DS} = 0 \text{ V}$ , $V_{GS} = 0 \text{ V}$ , $f = 1 \text{ kHz}$		60	$\Omega$


**Small Signal Characteristics**

$C_{iss}$	Input Capacitance	$V_{DS} = 10 \text{ V}$ , $V_{GS} = 0 \text{ V}$ , $f = 1.0 \text{ MHz}$		18	pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{DS} = 10 \text{ V}$ , $V_{GS} = 0 \text{ V}$ , $f = 1.0 \text{ MHz}$		8	pF

\* Pulse Test: Pulse Width  $\leq 300 \mu\text{s}$ , Duty Cycle = 2%

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