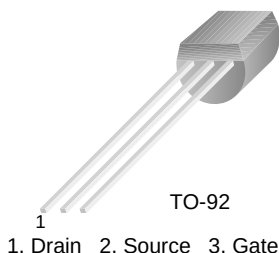


PN4861

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°C	625 5.0	mW mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C/W}$

* 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	Ω

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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