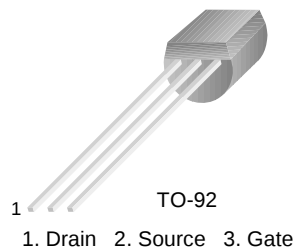


PN4117A

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.



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

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

NOTES:

- These ratings are based on a maximum junction temperature of 150degrees C.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$V_{DS} = 0, I_G = -1\mu\text{A}$	-40			V
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = -10\text{V}, I_D = 1.0\text{nA}$	-0.6		-1.8	V
I_{GSS}	Gate Reverse Current	$V_{DS} = 0\text{V}, V_{GS} = -20\text{V}$			-1.0	pA
On Characteristics						
I_{DSS}	Zero-Gate Voltage Drain Current *	$V_{DS} = 10\text{V}, V_{GS} = 0$	30		90	μA
Small Signal Characteristics						
g_{fs}	Common Source Forward Transconductance	$V_{DS} = 10\text{V}, V_{GS} = 0$ $f = 1.0\text{KHz}$	70		210	mmhos
g_{OSS}	Common Source Output Conductance	$V_{DS} = 10\text{V}, V_{GS} = 0$ $f = 1\text{KHz}$			3.0	mmhos
$R_{E(YFS)}$	Common Source Forward Conductance	$V_{DS} = 10\text{V}, V_{GS} = 0$ $f = 30\text{MHz}$	60			mmhos
C_{iss}	Input Capacitance	$V_{DS} = 10\text{V}, V_{GS} = 0$ $f = 1.0\text{KHz}$			3.0	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 10\text{V}, V_{GS} = 0$ $f = 1.0\text{MHz}$			1.5	pF

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 1.0\%$

Thermal Characteristics $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	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	$^{\circ}\text{C/W}$

Package Dimensions

TO-92



Dimensions in Millimeters

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