

U1898

N-Channel Switch

- This device is designed for low level analog switching, sample and hold circuits and chopper stabalized amplifiers.
- Sourced from Process 51.
- See J111 for characteristics.



1. Drain 2. Source 3. Gate

Absolute Maximum Ratings* T_a=25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{DG}	Drain-Gate Voltage	40	V
V_{GS}	Gate-Source Voltage	-40	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.

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units	
Off Charac	Off Characteristics					
V _{(BR)GS}	Gate-Source Breakdown Voltage	$I_G = 1.0 \mu\text{A}, V_{DS} = 0$	-40		V	
V _{GS(off)}	Gate-Source Cutoff Voltage	V _{DS} = 20 V, I _D = 1.0 nA	-2.0	-7.0	V	
I_{DGO}	Drain-Gate Leakage Current	V _{DG} = 20 V, I _S = 0		-200	pА	
On Charac	teristics	•	•	•	•	
I _{DSS}	Zero-Gate Voltage Drain Current *	V _{DS} = 20 V, V _{GS} = 0	15		mA	
r _{DS(on)}		$I_D = 1.0 \text{ mA}, V_{GS} = 0$		50	Ω	
Small Sign	nal Characteristics	·				
r _{ds(on)}	Drain-Source On Resistance	V _{DS} = VGS = 0, f= 1.0 kHz		50	Ω	
	Input Capacitance	$V_{DS} = 20, V_{GS} = 0, f = 1.0 \text{ MHz}$		16	pF	
C _{iss}	Reverse Transfer Capacitance	V _{GS} = - 20 V, f = 1.0 MHz		5.0	pF	
Switching Characteristics						
t _{on}	Turn-On Time	$I_{D(on)} = 6.0 \text{ mA}$		35	ns	
t _{off}	Turn-Off Time	V _{GS(off)} = 6.0 V		60	ns	

^{*} Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%

Thermal Characteristics T_a=25°C unless otherwise noted

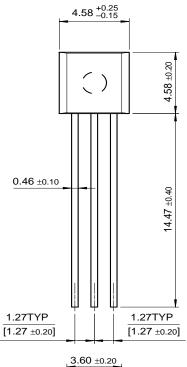
Symbol	Parameter	Max.	Units
P _D	Total Device Dissipation	625	mW
	Derate above 25°C	5.0	mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

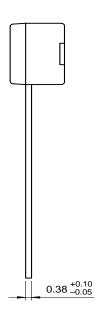
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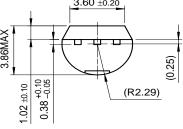
These rating are based on a maximum junction temperature of 150 degrees C.
These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Package Dimensions

TO-92







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