

### FEATURES

- Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding “-PBF” suffix.

### MAXIMUM RATINGS

Parameter	Symbol	Limit	Unit
<b>Drain-Source Voltage</b>	$V_{DS}$	100	V
<b>Gate-Source Voltage</b>	$V_{GS}$	$\pm 10$	
<b>Continuous Drain Current</b>	$I_D$	$T_C = 25^\circ\text{C}$	1.69
		$T_C = 100^\circ\text{C}$	1.07
<b>Maximum Power Dissipation<sup>1</sup></b>	$P_D$	8.33	W
<b>Thermal Resistance, Junction to Case</b>	$R_{\theta JC}$	20	$^\circ\text{C}/\text{W}$
<b>Operating Junction and Storage Temperature Range</b>	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

1. Derate linearly by 0.067 W/ $^\circ\text{C}$  for  $T_C \geq 25^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameters	Symbol	Min	Max	Unit	
<b>Drain-Source Breakdown Voltage</b> $I_D = 1\text{mA}, V_{GS} = 0\text{V}$	$BV_{DSS}$	100	-	V	
<b>Gate-Source Threshold Voltage</b> $V_{GS} = V_{DS}, I_D = 1\text{mA}$	$V_{GS(th)}$	1.0	2.0	V	
<b>Zero Gate Voltage Drain Current</b> $V_{DS} = 80\text{V}$ $V_{DS} = 80\text{V}, T_C = 125^\circ\text{C}$	$I_{DSS}$	-	1	$\mu\text{A}$	
		-	50		
<b>Gate-Source Leakage Current</b> $V_{GS} = \pm 10\text{V}, V_{DS} = 0$	$I_{GSS}$	-	100	nA	
<b>Drain-Source On Voltage</b> $I_D = 1.07\text{A}, V_{GS} = 5\text{V}$ $I_D = 1.69\text{A}, V_{GS} = 5\text{V}$	$V_{DS(on)}^1$	-	1.5	V	
		-	2.4		
<b>Drain-Source On Resistance</b> $I_D = 1.07\text{A}, V_{GS} = 5\text{V}$ $T_C = 125^\circ\text{C}, I_D = 1.07\text{A}, V_{GS} = 5\text{V}$	$r_{DS(on)}^1$	-	1.4	$\Omega$	
		-	2.6		
<b>Forward Transconductance</b> $V_{DS} = 5\text{V}, I_D = 1.07\text{A}$	$g_{fs}^1$	500	3500	mmho	
<b>Turn-On Delay Time</b>	$V_{DD} = 50\text{V}$	$t_d$	-	25	ns
<b>Rise Time</b>	$I_D = 1.07\text{A}$	$t_r$	-	80	
<b>Turn-Off Delay Time</b>	$R_{gan} = T_{gs} = 15\Omega$	$t_{d(off)}$	-	45	
<b>Fall Time</b>	$V_{GS} = 5\text{V}$	$t_f$	-	80	
<b>Diode Forward Voltage</b>	$I_{SD} = 1.69\text{A}$	$V_{SD}^1$	0.8	1.6	V
<b>Reverse Recovery Time</b>	$I_F = 1.0\text{A},$ $di/dt = 50\text{A}/\mu\text{s}$	$t_{rr}$	-	250	ns

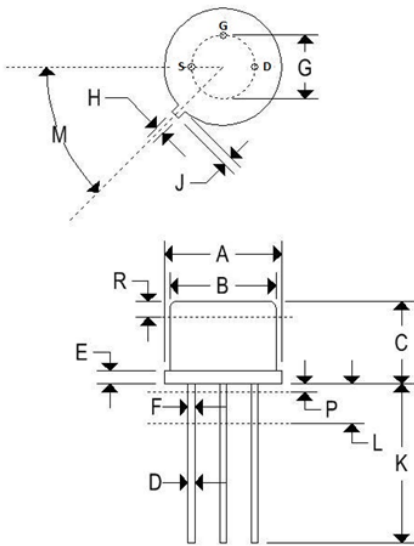
1. Pulsed: Pulse Width  $\leq 300\ \mu\text{s}$ , Duty Cycle  $\leq 2\%$

# 2N6901

100V N-CHANNEL MOSFET

## MECHANICAL CHARACTERISTICS

<b>Case</b>	TO-39
<b>Marking</b>	Alpha-numeric
<b>Pin out</b>	See below



	TO-39			
	Inches		Millimeters	
	Min	Max	Min	Max
<b>A</b>	0.350	0.370	8.890	9.400
<b>B</b>	0.315	0.335	8.000	8.510
<b>C</b>	0.240	0.260	6.10	6.60
<b>D</b>	0.016	0.021	0.406	0.533
<b>E</b>	0.009	0.125	0.2269	3.180
<b>F</b>	0.016	0.019	0.406	0.533
<b>G</b>	0.190	0.210	4.830	5.33
<b>H</b>	0.028	0.034	0.711	0.864
<b>J</b>	0.029	0.040	0.737	1.020
<b>K</b>	0.500	-	12.700	-
<b>L</b>	0.250	-	6.350	-
<b>M</b>	45° NOM		45° NOM	
<b>P</b>	-	0.050	-	1.270
<b>Q</b>	90° NOM		90° NOM	
<b>R</b>	0.100	-	2.540	-