

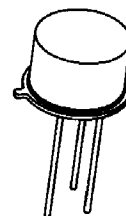
2N6901

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Unit
Drain - Source Voltage	V_{DS}	100	Vdc
Gate - Source Voltage	V_{GS}	± 10	Vdc
Continuous Drain Current $T_C = +25^\circ\text{C}$	I_{D1}	1.69	A _{dc}
Continuous Drain Current $T_C = +100^\circ\text{C}$	I_{D2}	1.07	A _{dc}
Max. Power Dissipation	P_{tl}	8.33 ⁽¹⁾	W
Drain to Source On State Resistance	$R_{ds(on)}$	1.4 ⁽²⁾	Ω
Operating & Storage Temperature	T_{op}, T_{stg}	-55 to +150	$^\circ\text{C}$

Note: (1) Derated Linearly by 0.067 W/ $^\circ\text{C}$ for $T_C > +25^\circ\text{C}$

(2) $V_{GS} = 5\text{Vdc}$, $I_D = 1.07\text{A}$

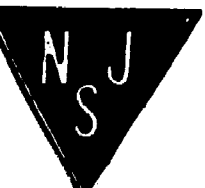


2N6901

(formerly TO-39)

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
OFF CHARACTERISTICS				
Drain-Source Breakdown Voltage $V_{GS} = 0\text{V}$, $I_D = -1\text{mA}$	$V_{(BR)DSS}$	100		Vdc
Gate-Source Voltage (Threshold) $V_{DS} \geq V_{GS}$, $I_D = 1.0\text{mA}$	$V_{GS(th)1}$	1.0	2.0	Vdc
$V_{DS} \geq V_{GS}$, $I_D = 1.0\text{mA}$, $T_j = +125^\circ\text{C}$	$V_{GS(th)2}$	0.5		
$V_{DS} \geq V_{GS}$, $I_D = 1.0\text{mA}$, $T_j = -55^\circ\text{C}$	$V_{GS(th)3}$		3.0	
Gate Current $V_{GS} = \pm 10\text{V}$, $V_{DS} = 0\text{V}$	I_{GSS1}		± 100	nA _{dc}
$V_{GS} = \pm 10\text{V}$, $V_{DS} = 0\text{V}$, $T_j = +125^\circ\text{C}$	I_{GSS2}		± 200	
Drain Current $V_{GS} = 0\text{V}$, $V_{DS} = 80\text{V}$	I_{DSS1}		1.0	μA
$V_{GS} = 0\text{V}$, $V_{DS} = 80\text{V}$, $T_j = +125^\circ\text{C}$	I_{DSS2}		50.0	μA
Static Drain-Source On-State Resistance $V_{GS} = 5\text{V}$, $I_D = 1.07\text{A}$ pulsed	$r_{DS(on)1}$		1.4	Ω
$T_j = -125^\circ\text{C}$ $V_{GS} = 5\text{V}$, $I_D = 1.07\text{A}$ pulsed	$r_{DS(on)2}$		2.6	Ω
Diode Forward Voltage $V_{GS} = 0\text{V}$, $I_D = 1.69\text{A}$ pulsed	V_{SD}	0.8	1.6	Vdc

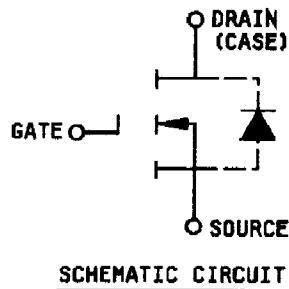
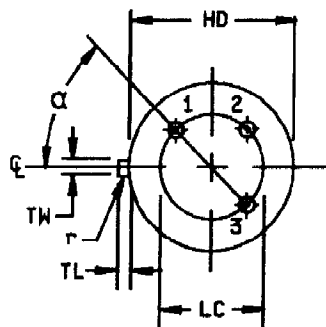
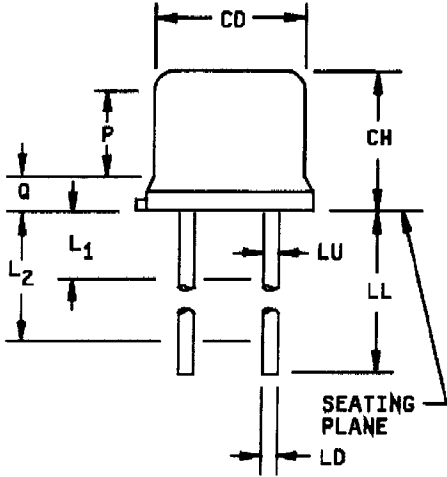


DYNAMIC CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Gate Charge:				
On-State Gate Charge	$Q_{g(on)}$		5.0	nC
Gate to Source Charge	Q_{gs}	$V_{GS} = 5V, I_D = 1.69A$	1.0	
Gate to Drain Charge	Q_{gd}	$V_{DS} = 50V$	2.9	

SWITCHING CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Switching time tests:				
Turn-on delay time	$t_{d(on)}$		25	ns
Rinse time	t_r		80	
Turn-off delay time	$t_{d(off)}$		45	
Fall time	t_f		80	
Diode Reverse Recovery Time	t_{rr}		250	ns
		$di/dt \leq 100A/\mu s, V_{DD} \leq 30V, I_F = 1.0A$		



Symbol	Dimensions				
	Inches		Millimeters		
	Min	Max	Min	Max	
CD	.305	.335	7.75	8.51	
CH	.160	.180	4.07	4.57	
HD	.335	.370	8.51	9.40	
LC	.200 TP		5.08 TP		
LD	.016	.021	0.41	0.53	8.9
LL	.500	.750	12.70	19.05	8.9
LU	.016	.019	0.41	0.48	8.9
L1		.050		1.27	8.9
L2	.250		6.35		8.9
P	.100		2.54		6
Q		.050		1.27	5
TL	.029	.045	0.74	1.14	4
TW	.028	.034	0.71	0.86	3
r		.010		0.25	10
α	45° TP		45° TP		6