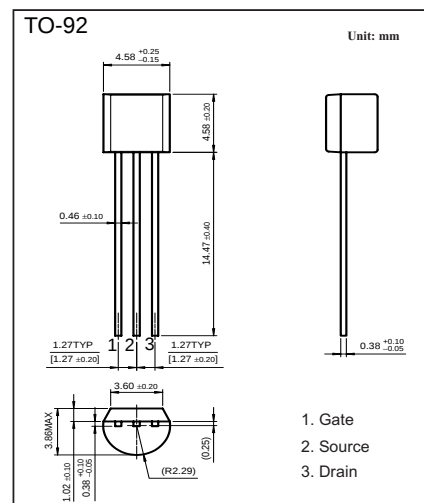
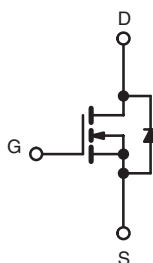


N-Channel 60-V (D-S) MOSFETs

KN0606L

■ Features

- Low On-Resistance: $1.2\ \Omega$
- Low Threshold: $<1.6\ \text{V}$
- Low Input Capacitance: $35\ \text{pF}$
- Fast Switching Speed: $9\ \text{ns}$
- Low Input and Output Leakage

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 30	
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	$T_A = 25^\circ\text{C}$	I_D	0.33	A
	$T_A = 100^\circ\text{C}$		0.21	
Pulsed Drain Current ^a		I_{DM}	1.6	
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	0.8	W
	$T_A = 100^\circ\text{C}$		0.32	
Thermal Resistance, Junction-to-Ambient		R_{thJA}	156	$^\circ\text{C/W}$ $^\circ\text{C}$
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	

KN0606L

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Limits			
			Min	Typ ^a	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 10\text{ }\mu\text{A}$	60	70		V
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 0.25\text{ mA}$		1.6		
		$V_{DS} = V_{GS}, I_D = 1\text{ mA}$	0.8	1.7	2	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 30\text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60\text{ V}, V_{GS} = 0\text{ V}$			10	μA
		$T_J = 125^\circ\text{C}$			500	
On-State Drain Current ^b	$I_{D(on)}$	$V_{DS} = 10\text{ V}, V_{GS} = 4.5\text{ V}$		0.5		A
		$V_{DS} = 10\text{ V}, V_{GS} = 10\text{ V}$	1.5	2.4		
Drain-Source On-Resistance ^b	$r_{DS(on)}$	$V_{GS} = 3.5\text{ V}, I_D = 0.04\text{ A}$		4		Ω
		$V_{GS} = 4.5\text{ V}, I_D = 0.25\text{ A}$		2		
		$T_J = 125^\circ\text{C}$		3.8		
		$V_{GS} = 5\text{ V}, I_D = 0.3\text{ A}$		2.3		
		$V_{GS} = 10\text{ V}, I_D = 0.5\text{ A}$		1.2	3	
		$T_J = 125^\circ\text{C}$		2.3	6	
		$V_{GS} = 10\text{ V}, I_D = 1\text{ A}$		1.3		
		$T_C = 125^\circ\text{C}$		2.5		
Forward Transconductance ^b	g_{fs}	$V_{DS} = 10\text{ V}, I_D = 0.5\text{ A}$	170	350		mS
Common Source Output Conductance ^b	g_{os}	$V_{DS} = 10\text{ V}, I_D = 0.1\text{ A}$		0.3		
Input Capacitance	C_{iss}	$V_{DS} = 25\text{ V}, V_{GS} = 0\text{ V},$ $f = 1\text{ MHz}$		35	50	pF
Output Capacitance	C_{oss}			25	40	
Reverse Transfer Capacitance	C_{rss}			6	10	
Turn-On Time	t_{ON}	$V_{DD} = 25\text{ V}, R_L = 23\text{ }\Omega$ $I_D \approx 1\text{ A}, V_{GEN} = 10\text{ V}$ $R_G = 25\text{ }\Omega$		8	10	ns
Turn-Off Time	t_{OFF}			9	10	