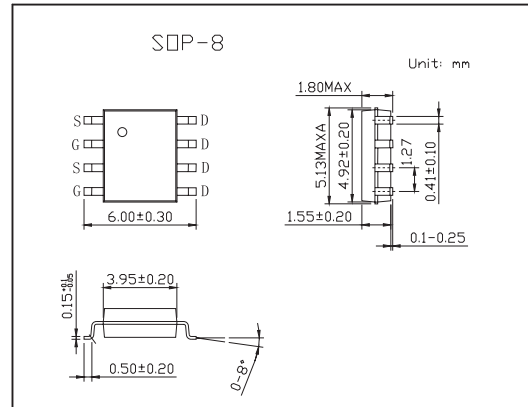
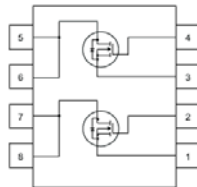


400V Dual N-Channel MOSFET

KQS4901

■ Features

- 0.45 A, 400 V. $R_{DS(ON)} = 4.2 \Omega$ @ $V_{GS} = 10$ V
- Low gate charge (typical 5.8nC)
- Low C_{rss} (typical 5.0 Pf)
- Fast switching speed
- Improved dv/dt capability



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

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	V_{bss}	400	V
Drain Current Continuous ($T_A=25^\circ\text{C}$)	I_D	0.45	A
Drain Current Continuous ($T_A=70^\circ\text{C}$)		0.285	A
Drain Current Pulsed (Note 1)	I_{DM}	1.8	A
Gate-Source Voltage	V_{GS}	± 25	V
Peak Diode Recovery dv/dt (Note 2)	dv/dt	4.5	V/ns
Power Dissipation ($T_A=25^\circ\text{C}$)	P_D	2	W
Power Dissipation ($T_A=70^\circ\text{C}$)		1.3	
Operating and Storage Temperature	T_J, T_{STG}	-55 to 150	$^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	62.5	$^\circ\text{C/W}$

KQS4901

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BVDSS	V _{GS} = 0 V, I _D = 250 μ A	400			V
Breakdown Voltage Temperature Coefficient	$\frac{\Delta BVDSS}{\Delta T_J}$	I _D = 250 μ A, Referenced to 25°C		0.42		V/°C
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 400 V, V _{GS} = 0 V			1	μ A
		V _{DS} = 320 V, T _c = 125°C			10	
Gate-Body Leakage, Forward	I _{GSSF}	V _{GS} = 25 V, V _{DS} = 0 V			100	nA
Gate-Body Leakage, Reverse	I _{GSSR}	V _{GS} = -25 V, V _{DS} = 0 V			-100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μ A	2.0		4.0	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10 V, I _D = 0.225 A		3.2	4.2	mΩ
Forward Transconductance	g _{FS}	V _{DS} = 35 V, I _D = 0.225A (Note 3)		0.283		S
Input Capacitance	C _{iss}	V _{DS} = 25 V, V _{GS} = 0 V, f = 1.0 MHz		160	210	pF
Output Capacitance	C _{oss}			30	40	pF
Reverse Transfer Capacitance	C _{rss}			5	6.5	pF
Turn-On Delay Time	t _{d(on)}	V _{DD} = 200V, I _D = 0.45 A, R _G = 25 Ω (Note 3,4)		5	20	ns
Turn-On Rise Time	t _r			20	50	ns
Turn-Off Delay Time	t _{d(off)}			20	50	ns
Turn-Off Fall Time	t _f			35	80	ns
Total Gate Charge V _{GS} =5V	Q _g	V _{DS} = 320 V, I _D = 0.45 A, V _{GS} =10V (Note 3,4)		5.8	7.5	nC
Gate-Source Charge	Q _{gs}			0.53		nC
Gate-Drain Charge	Q _{gd}			3.22		nC
Maximum Continuous Drain-Source Diode Forward Current	I _S				0.45	A
Maximum Pulsed Drain-Source Diode Forward Current	I _{SM}				1.8	A
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} = 0 V, I _S = 0.45 A			1.5	V
Diode Reverse Recovery Time	t _{rr}	V _{GS} = 0 V, I _S = 0.45 A (Not 3)		86		nS
Diode Reverse Recovery Charge	Q _{rr}	diF/dt = 100 A/μ s		0.15		nC

Note:

- 1.Repetitive Rating: Pulse width limited by maximum junction temperature
- 2 I_{SD} ≤ 0.45A, di/dt ≤ 200A/μ S, V_{DD} ≤ BVDSS, starting T_J = 25°C
- 3 Pulse Test :Pulse width ≤ 300 μ s, Duty cycle ≤ 2%
- 4 Essentially independent of operating temperature