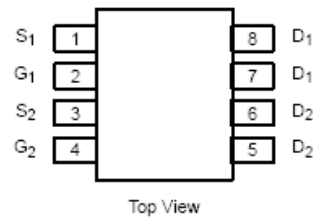
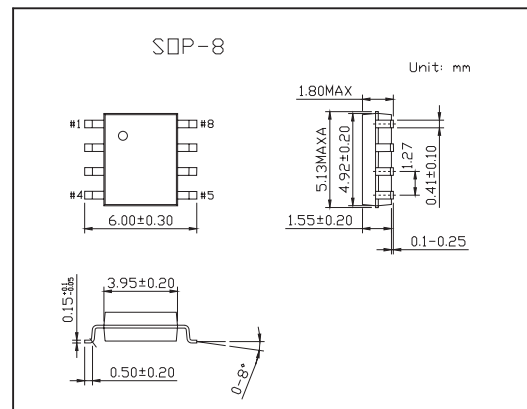
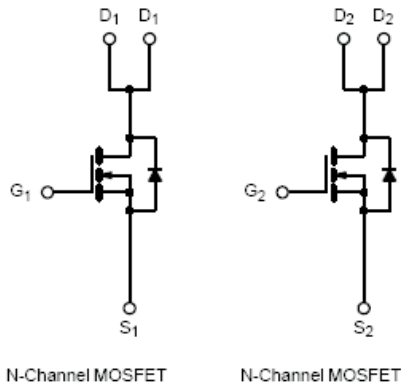


Dual N-Channel 30-V (D-S) MOSFET

KI4920DY

■ Features

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$)*	I_D	$T_A = 25^\circ\text{C}$	± 6.9
		$T_A = 70^\circ\text{C}$	± 5.5
Pulsed Drain Current	I_{DM}	± 40	A
Continuous Source Current (Diode Conduction) *	I_S	1.7	A
Maximum Power Dissipation *	P_D	$T_A = 25^\circ\text{C}$	2
		$T_A = 70^\circ\text{C}$	1.3
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$
Maximum Junction-to-Ambient*	R_{thJA}	62.5	$^\circ\text{C}/\text{W}$

* Surface Mounted on FR4 Board, $t \leq 10$ sec.

KI4920DY

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	1			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0 V			1	μA
		V _{DS} = 30 V, V _{GS} = 0 V, T _J = 55°C			25	
On-State Drain Current *	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 10 V	20			A
Drain-Source On-State Resistance*	r _{DS(on)}	V _{GS} = 10 V, I _D = 6.9 A		0.02	0.025	Ω
		V _{GS} = 4.5 V, I _D = 5.8 A		0.026	0.035	Ω
Forward Transconductance*	g _{fs}	V _{DS} = 15 V, I _D = 6.9 A		25		S
Schottky Diode Forward Voltage*	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V			1.2	V
Total Gate Charge	Q _g	V _{DS} = 15 V, V _{GS} = 5V, I _D = 6.9 A		15	23	nC
Total Gate Charge	Q _{gt}	V _{DS} = 15 V, V _{GS} = 10 V, I _D = 6.9 A		30	50	nC
Gate-Source Charge	Q _{gs}			7.5		nC
Gate-Drain Charge	Q _{gd}			3.5		nC
Turn-On Delay Time	t _{d(on)}			12	20	ns
Rise Time	t _r	V _{DD} = 15 V, R _L = 15 Ω		10	20	ns
Turn-Off Delay Time	t _{d(off)}	I _D = 1 A, V _{GEN} = 10 V, R _G = 6 Ω		60	90	ns
Fall Time	t _f			15	30	ns
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.7 A, di/dt = 100 A/μs		50	90	ns

* Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.