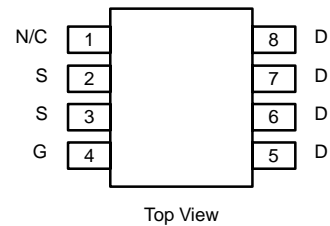
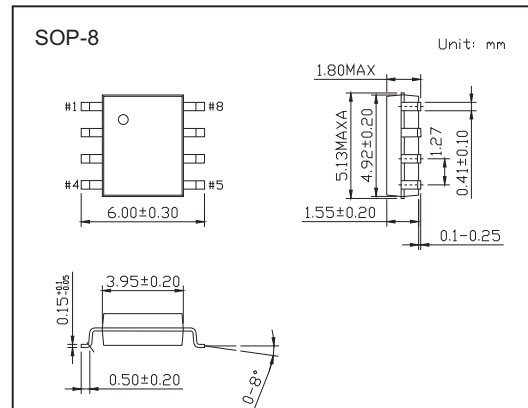
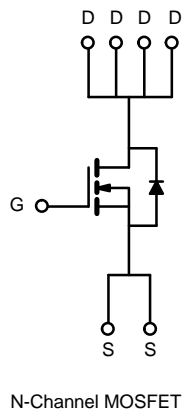


N-Channel 30-V (D-S) MOSFET

KI9410DY

■ Features

- $V_{DS} = 30V$
- $I_D = 7 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 0.03 \Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 0.04 \Omega$ ($V_{GS} = 5V$)
- $R_{DS(ON)} < 0.05 \Omega$ ($V_{GS} = 4.5V$)

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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ C$)*	I_D	$T_A = 25^\circ C$	7.0
		$T_A = 70^\circ C$	5.8
Pulsed Drain Current	I_{DM}	30	A
Continuous Source Current(Diode Conduction) *	I_S	2.8	A
Maximum Power Dissipation *	P_D	$T_A = 25^\circ C$	2.5
		$T_A = 70^\circ C$	1.6
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ C$
Maximum Junction-to-Ambient*	$t \leq 10 \text{ sec}$	R_{thJA}	50
			$^\circ C/W$

* Surface Mounted on 1" x 1" FR4 Board.

KI9410DY

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 \mu A$	1.0			V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0 V, V_{GS} = \pm 20 V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24 V, V_{GS} = 0 V$			2	μA
		$V_{DS} = 24 V, V_{GS} = 0 V, T_J = 55^\circ C$			25	
On-State Drain Current ^b *	$I_{D(on)}$	$V_{DS} \geq 5 V, V_{GS} = 10 V$	30			A
Drain-Source On-State Resistance *	$r_{DS(on)}$	$V_{GS} = 10 V, I_D = 7 A$		0.024	0.030	Ω
		$V_{GS} = 5 V, I_D = 4 A$		0.030	0.040	Ω
		$V_{GS} = 4.5 V, I_D = 3.5 A$		0.032	0.050	Ω
Forward Transconductance ^b *	g_{fs}	$V_{DS} = 15 V, I_D = 7 A$		15		S
Diode Forward Voltage ^b *	V_{SD}	$I_S = 2 A, V_{GS} = 0 V$		0.72	1.1	V
Total Gate Charge	Q_g	$V_{DS} = 15 V, V_{GS} = 10 V, I_D = 7 A$		24	50	nC
Gate-Source Charge	Q_{gs}			2.8		
Gate-Drain Charge	Q_{gd}			4.6		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 25 V, R_L = 25 \Omega$ $I_D = 1 A, V_{GEN} = 10 V, R_G = 6 \Omega$		14	30	ns
Rise Time	t_r			10	60	
Turn-Off Delay Time	$t_{d(off)}$			46	150	
Fall Time	t_f			17	140	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 2 A, di/dt = 100 A/\mu s$		60		

* Pulse test; pulse width $\leq 300 \mu s$, duty cycle $\leq 2\%$.