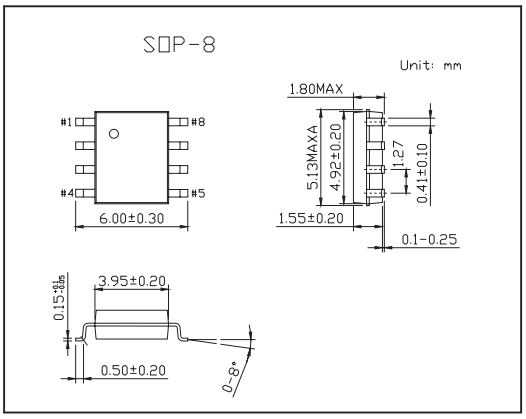
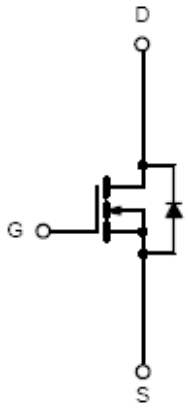
Dual N-Channel 80-V (D-S) MOSFET

KI4980DY

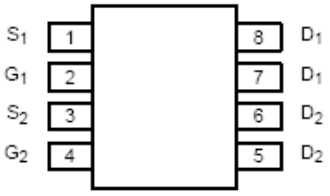


■ Features

●



N-Channel MOSFET



Top View

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	80	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current (T_J = 150 ℃)*	T_A = 25℃	I_D	3.7	A
	T_A = 70℃		2.9	
Pulsed Drain Current		I_{DM}	30	
Continuous Source Current (Diode Conduction) *		I_S	1.7	A
Maximum Power Dissipation *	T_A = 25℃	P_D	2.0	W
	T_A = 70℃		1.3	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	℃
Maximum Junction-to-Ambient*		R_{thJA}	62.5	℃/W

* Surface Mounted on FR4 Board, t ⩽ 10 sec.

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250 μA	2			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} = 80 V, V_{GS} = 0 V			1	μA
		V_{DS} = 80 V, V_{GS} = 0 V, T_J = 55℃			20	
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 =3.7 A		0.062	0.075	Ω
		V_{GS} = 6.0 V, I_D = 3.2 A		0.071	0.095	Ω
Forward Transconductance*	g_{fs}	V_{DS} = 15 V, I_D = 3.7 A		12		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} = 40 V, V_{GS} = 10V, I_D = 3.7 A		15	30	nC
Gate-Source Charge	Q_{gs}			4		nC
Gate-Drain Charge	Q_{gd}			3.2		nC
Gate Resistance	R_g				5.1	Ω
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = 40 V, R_L = 40 Ω I_D = 1 A, V_{GEN} = 10 V, R_G = 6 Ω		10	20	ns
Rise Time	t_r			10	20	ns
Turn-Off Delay Time	$t_{d(off)}$			30	60	ns
Fall Time	t_f			10	20	ns
Source-Drain Reverse Recovery Time	t_{rr}	I_F = 1.7 A, di/dt = 100 A/μs		75	110	ns

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