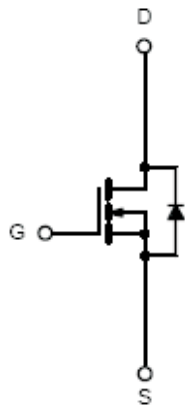


## Dual N-Channel 80-V (D-S) MOSFET

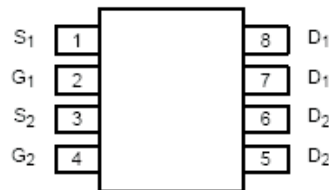
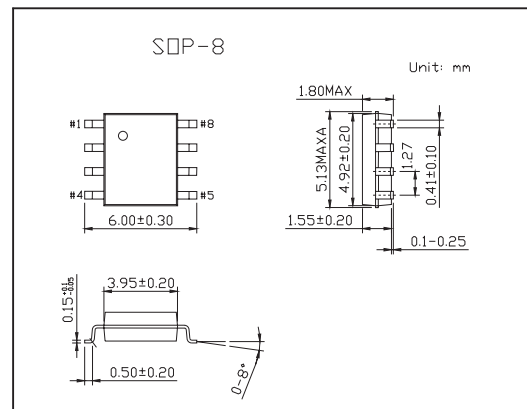
### KI4980DY

#### ■ Features

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N-Channel MOSFET



Top View

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	80	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ )*	$I_D$	$T_A = 25^\circ\text{C}$	3.7
		$T_A = 70^\circ\text{C}$	2.9
Pulsed Drain Current	$I_{DM}$	30	A
Continuous Source Current (Diode Conduction) *	$I_S$	1.7	A
Maximum Power Dissipation *	$P_D$	$T_A = 25^\circ\text{C}$	2.0
		$T_A = 70^\circ\text{C}$	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.

## KI4980DY

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 \mu A$	2			V	
Gate-Body Leakage	$I_{GBSS}$	$V_{DS} = 0 V, V_{GS} = \pm 20 V$			$\pm 100$	nA	
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 80 V, V_{GS} = 0 V$			1	$\mu A$	
		$V_{DS} = 80 V, V_{GS} = 0 V, T_J = 55^\circ C$			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	$\Omega$	
		$V_{GS} = 6.0 V, I_D = 3.2 A$		0.071	0.095	$\Omega$	
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	$\Omega$	
Turn-On Delay Time	$t_{d(on)}$	$I_D = 1 A, V_{GEN} = 10 V, R_G = 6 \Omega$		10	20	ns	
Rise Time	$t_r$		$V_{DD} = 40 V, R_L = 40 \Omega$		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	$t_{rr}$	$I_F = 1.7 A, di/dt = 100 A/\mu s$		75	110	ns	

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