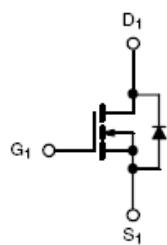
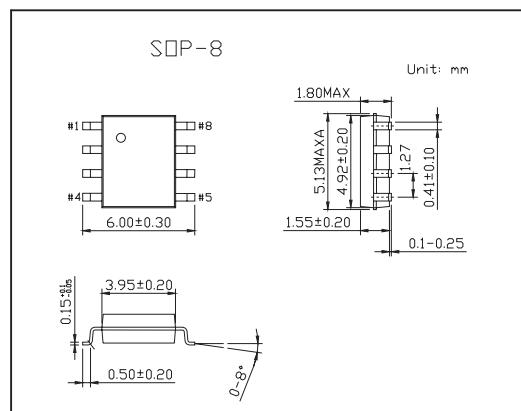


Dual N-Channel 30-V (D-S) MOSFET

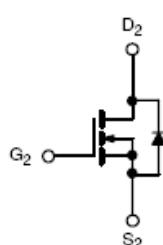
KI4330DY

■ Features

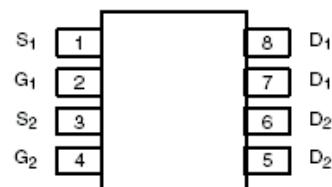
- TrenchFET Power MOSFETs
- 100 % R_g Tested



N-Channel MOSFET



N-Channel MOSFET



Top View

■ Absolute Maximum Ratings Ta = 25°C

Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V _{DS}	30		V
Gate-Source Voltage		V _{GS}	±20		
Continuous Drain Current (T _J = 150 °C)*	T _A = 25 °C	I _D	8.7	6.6	A
	T _A = 70 °C		7.0	5.3	
Pulsed Drain Current		I _{DM}	±30		A
Continuous Source Current (Diode Conduction)		I _S	1.7	0.9	
Maximum Power Dissipation	T _A = 25 °C	P _D	2.0	1.1	W
	T _A = 70 °C		1.3	0.7	
Operating Junction and Storage Temperature Range		T _J , T _{Stg}	-55 to 150		°C
Parameter		Symbol	Typical	Maximum	
Maximum Junction-to-Ambient*	t ≤ 10 sec	R _{thJA}	45	62.5	°C/W
	Steady-State		85	110	
Maximum Junction-to-Foot (Drain)	Steady-State	R _{thJF}	26	35	

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

KI4330DY■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Gate Threshold Voltage	$V_{GS(\text{th})}$	$V_{DS} = V_{GS}, I_D = 250 \mu\text{A}$	1		3	V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0 \text{ V}, V_{GS} = \pm 20 \text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30 \text{ V}, V_{GS} = 0 \text{ V}$			1	μA
		$V_{DS} = 30 \text{ V}, V_{GS} = 0 \text{ V}, T_J = 55^\circ\text{C}$			5	
On-State Drain Current *	$I_{D(\text{on})}$	$V_{DS} \geq 5 \text{ V}, V_{GS} = 10 \text{ V}$	30			A
Drain-Source On-State Resistance*	$r_{DS(\text{on})}$	$V_{GS} = 10 \text{ V}, I_D = 8.7 \text{ A}$		0.013	0.0165	Ω
		$V_{GS} = 4.5 \text{ V}, I_D = 7.5 \text{ A}$		0.018	0.022	Ω
Forward Transconductance*	g_{fs}	$V_{DS} = 15 \text{ V}, I_D = 8.7 \text{ A}$		28		S
Schottky Diode Forward Voltage*	V_{SD}	$I_S = 1.7 \text{ A}, V_{GS} = 0 \text{ V}$		0.8	1.2	V
Total Gate Charge	Q_g	$V_{DS} = 15 \text{ V}, V_{GS} = 4.5 \text{ V}, I_D = 8.7 \text{ A}$		13		nC
Gate-Source Charge	Q_{gs}			7.1		nC
Gate-Drain Charge	Q_{gd}			3.5		nC
Gate Resistance	R_g			1	1.7	Ω
Turn-On Delay Time	$t_{d(\text{on})}$	$V_{DD} = 15 \text{ V}, R_L = 15 \Omega$ $I_D = 1 \text{ A}, V_{GEN} = 10 \text{ V}, R_G = 6 \Omega$		10	15	ns
Rise Time	t_r			10	15	ns
Turn-Off Delay Time	$t_{d(\text{off})}$			40	60	ns
Fall Time	t_f			12	20	ns
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 1.7 \text{ A}, dI/dt = 100 \text{ A}/\mu\text{s}$		45	70	ns

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