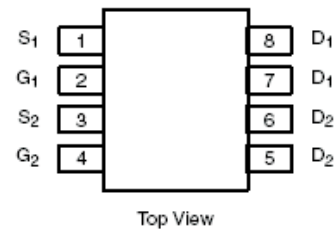
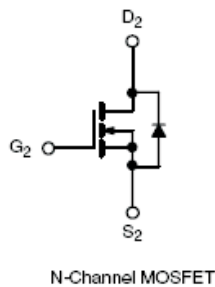
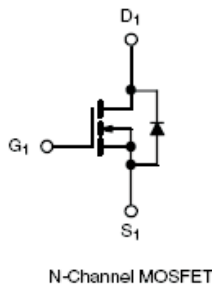
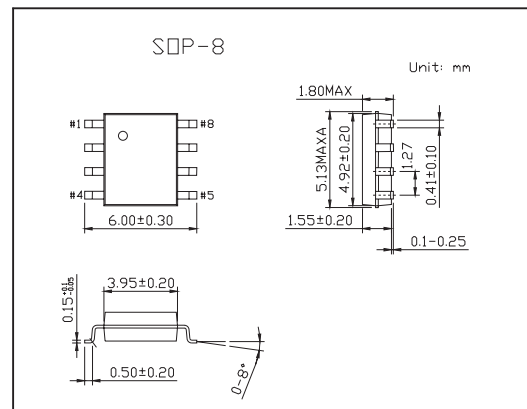


Dual N-Channel 30-V (D-S) MOSFET

KI4330DY

■ Features

- TrenchFET Power MOSFETS
- 100 % Rg Tested

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

Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	30		V
Gate-Source Voltage		V_{GS}	± 20		
Continuous Drain Current ($T_J = 150^\circ\text{C}$)*	$T_A = 25^\circ\text{C}$	I_D	8.7	6.6	A
	$T_A = 70^\circ\text{C}$		7.0	5.3	
Pulsed Drain Current		I_{DM}	± 30		
Continuous Source Current (Diode Conduction)		I_S	1.7	0.9	A
Maximum Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	2.0	1.1	W
	$T_A = 70^\circ\text{C}$		1.3	0.7	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		$^\circ\text{C}$
Parameter		Symbol	Typical	Maximum	
Maximum Junction-to-Ambient*	$t \leq 10 \text{ sec}$	R_{thJA}	45	62.5	$^\circ\text{C}/\text{W}$
	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 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		3	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			5		
On-State Drain Current *	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 10 V	30			A	
Drain-Source On-State Resistance*	r _{DS(on)}	V _{GS} = 10 V, I _D = 8.7 A		0.013	0.0165	Ω	
		V _{GS} = 4.5 V, I _D = 7.5 A		0.018	0.022	Ω	
Forward Transconductance*	g _{fs}	V _{DS} = 15 V, I _D = 8.7 A		28		S	
Schottky Diode Forward Voltage*	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V		0.8	1.2	V	
Total Gate Charge	Q _g	V _{DS} = 15 V, V _{GS} = 4.5 V, I _D = 8.7 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(on)}	I _D = 1 A, V _{GEN} = 10 V, R _G = 6 Ω		10	15	ns	
Rise Time	t _r		V _{DD} = 15 V, R _L = 15 Ω		10	15	ns
Turn-Off Delay Time	t _{d(off)}				40	60	ns
Fall Time	t _f				12	20	ns
Source-Drain Reverse Recovery Time	t _{rr}		I _F = 1.7 A, di/dt = 100 A/μs		45	70	ns

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