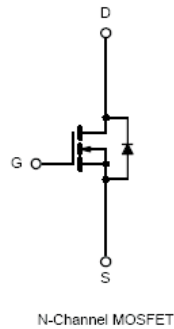
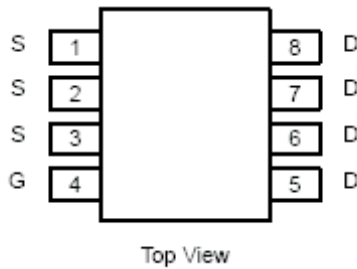
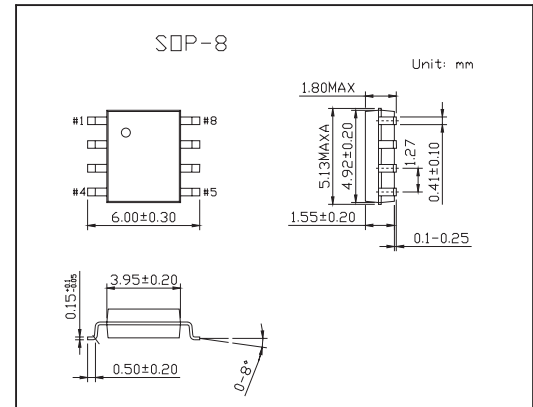


## N-Channel 200-V (D-S) MOSFET KI4464DY

### ■ Features

- PWM Optimized for (Lowest  $Q^g$  and Low  $R^G$ )
- TrenchFET Power MOSFET



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

Parameter	Symbol	10 secs	Steady State	Unit
Drain-Source Voltage	$V_{DS}$	200		V
Gate-Source Voltage	$V_{GS}$	$\pm 20$		
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ ) $T_A = 25^\circ\text{C}$ $T_A = 70^\circ\text{C}$	$I_D$	2.2 1.7	1.7 1.3	A
Pulsed Drain Current	$I_{DM}$	8		
Single Avalanche Current $L = 0.1\text{ mH}$	$I_{AS}$	3		
Single Avalanche Energy $L = 0.1\text{ mH}$	$E_{AS}$	0.45		mJ
Continuous Source Current ( Diode Conduction)*	$I_S$	2.1	1.2	A
Maximum Power Dissipation * $T_A = 25^\circ\text{C}$ $T_A = 70^\circ\text{C}$	$P_D$	2.5 1.6	1.5 0.9	W
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to 150		

\*Surface Mounted on 1" X 1" FR4 Board.

## KI4464DY

## ■ Thermal Resistance Ratings

Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient *	t ≤ 10 sec	37	50	°C/W
	Steady-State	68	85	
Maximum Junction-to-Foot (Drain)	Steady-State	17	21	

\* Surface Mounted on 1" X 1" FR4 Board.

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 μA	2.0		4	V
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 160 V, V <sub>GS</sub> = 0 V			1	μA
		V <sub>DS</sub> = 160 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55°C			5	
On-State Drain Current*	I <sub>D(on)</sub>	V <sub>DS</sub> ≥ 5 V, V <sub>GS</sub> = 10 V	8			A
Drain Source On State Resistance*	r <sub>DS(on)</sub>	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 2.2 A		0.195	0.240	Ω
		V <sub>GS</sub> = 6.0 V, I <sub>D</sub> = 2.1 A		0.210	0.260	
Forward Transconductance <sup>b</sup>	g <sub>fs</sub>	V <sub>DS</sub> = 15 V, I <sub>D</sub> = 2.2 A		8.0		S
Schottky Diode Forward Voltage*	V <sub>SD</sub>	I <sub>S</sub> = 2.1 A, V <sub>GS</sub> = 0 V		0.8	1.2	V
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 100 V, V <sub>GS</sub> = 10 V, I <sub>D</sub> = 2.2 A		12	18	nC
Gate-Source Charge	Q <sub>gs</sub>			2.5		
Gate-Drain Charge	Q <sub>gd</sub>			3.8		
Gate Resistance	R <sub>g</sub>			2.5		Ω
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = 100V, R <sub>L</sub> = 100 Ω, I <sub>D</sub> = 1A, V <sub>GEN</sub> = 10V, R <sub>G</sub> = 6 Ω		10	15	ns
Rise Time	t <sub>r</sub>			12	20	
Turn-Off Delay Time	t <sub>d(off)</sub>			15	25	
Fall Time	t <sub>f</sub>			15	25	
Source-Drain Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 2.1 A, di/dt = 100 A/μs		60	90	ns

\* Pulse test :Pulse width ≤ 300 μs, duty cycle ≤ 2%