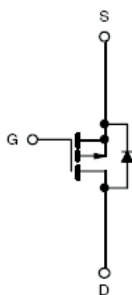


P-Channel 1.8-V (G-S) MOSFET

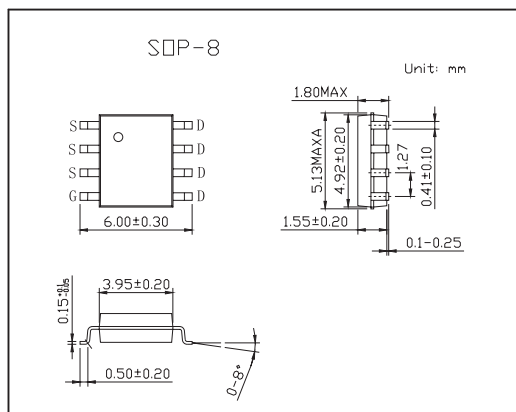
KI4403BDY

■ Features

- TrenchFET Power MOSFET



P-Channel MOSFET



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

Parameter	Symbol	10 sec	Steady State	Unit
Drain-Source Voltage	V_{DS}	-20		V
Gate-Source Voltage	V_{GS}	± 8		V
Continuous Drain Current ($T_J=150^\circ\text{C}$) * $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	I_D	-9.9	-7.3	A
		-7.9	-5.8	
Pulsed Drain Current	I_{DM}	-30		A
Continuous Source Current (diode conduction) *	I_S	-2.3	-1.3	A
Power Dissipation *	P_D	2.5	1.35	W
		1.6	0.87	
Junction Temperature	T_J	150		$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150		$^\circ\text{C}$

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

KI4403BDY

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -350 μA	-0.45		-1.0	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -16 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -16 V, V _{GS} = 0 V, T _J = 70 °C			-10	
On-State Drain Current	I _{D(on)}	V _{DS} ≤ -5 V, V _{GS} = -4.5 V	20			A
Drain-Source On-State Resistance *	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -9.9 A		0.014	0.017	Ω
		V _{GS} = -2.5 V, I _D = -8.5 A		0.018	0.023	
		V _{GS} = -1.8 V, I _D = -3.1 A		0.024	0.032	
Forward Transconductance *	g _{fs}	V _{DS} = -15 V, I _D = -9.9 A		36		S
Diode Forward Voltage *	V _{SD}	I _S = -2.3 A, V _{GS} = 0 V		-0.8	-1.1	V
Total Gate Charge	Q _g	V _{DS} = -10 V, V _{GS} = -5 V, I _D = -9.9 A		33	50	nC
Gate-Source Charge	Q _{gs}			4.2		
Gate-Drain Charge	Q _{gd}			7.6		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -10 V, R _L = 15 Ω, I _D = -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω		25	40	ns
Rise Time	t _r			45	70	
Turn-Off Delay Time	t _{d(off)}			150	225	
Fall Time	t _f			70	110	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -2.3 A, di/dt = 100 A/μs		40	60	

* Pulse test: PW ≤ 300 μs duty cycle ≤ 2%.