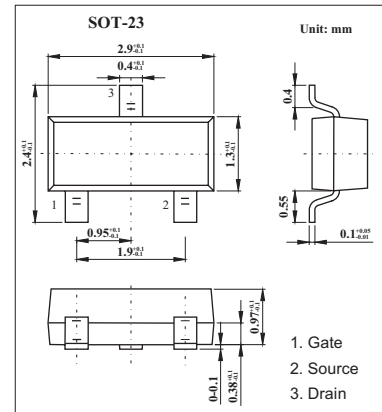
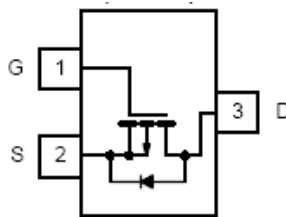


## P-Channel 1.8-V (G-S) MOSFET KI2311DS

### ■ Features

- TrenchFET Power MOSFETS



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

Parameter	Symbol	5secs	Steady State	Unit
Drain-Source Voltage	$V_{DS}$	-8		V
Gate-Source Voltage	$V_{GS}$	$\pm 8$		
Continuous Drain Current ( $T_J = 150^\circ\text{C}$ )*1,2 $T_A = 25^\circ\text{C}$ $T_A = 70^\circ\text{C}$	$I_D$	-3.5	-3	A
Pulsed Drain Current	$I_{DM}$	-10		
Continuous Source Current (Diode Conduction)*1,2	$I_S$	-0.8	-0.6	
Maximum Power Dissipation *1,2 $T_A = 25^\circ\text{C}$ $T_A = 70^\circ\text{C}$	$P_D$	0.96	0.71	W
		0.62	0.46	
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to 150		$^\circ\text{C}$

\*1 Surface Mounted on FR4 Board.

\*2 Pulse width limited by maximum junction temperature.

### ■ Thermal Resistance Ratings

Parameter	Symbol	Typical	Maximum	Unit	
Maximum Junction-to-Ambient *	$R_{thJA}$	$t \leq 5 \text{ sec}$	100	130	$^\circ\text{C/W}$
		Steady-State	140	175	
Maximum Junction-to-Foot (Drain)	$R_{thJF}$	60	75		

\* Surface Mounted on FR4 Board.

## KI2311DS

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = -10\ \mu\text{ A}$	-8			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{ A}$	-0.45		-8	V
Gate-Body Leakage	$I_{GSS}$	$V_{DS} = 0\text{ V}, V_{GS} = \pm 8\text{ V}$			$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -6.4\text{ V}, V_{GS} = 0\text{ V}$			-1	$\mu\text{ A}$
		$V_{DS} = -6.4\text{ V}, V_{GS} = 0\text{ V}, T_J = 55^\circ\text{C}$			-10	
On-State Drain Current*	$I_{D(on)}$	$V_{DS} \leq -5\text{ V}, V_{GS} = -4.5\text{ V}$	-6			A
		$V_{DS} \leq -5\text{ V}, V_{GS} = -2.5\text{ V}$	-3			
Drain Source On State Resistance*	$r_{DS(on)}$	$V_{GS} = -4.5\text{ V}, I_D = -3.5\text{ A}$		0.036	0.045	$\Omega$
		$V_{GS} = -2.5\text{ V}, I_D = -3\text{ A}$		0.058	0.072	
		$V_{GS} = -1.8\text{ V}, I_D = -0.7\text{ A}$		0.096	0.120	
Forward Transconductance <sup>b</sup>	$g_{fs}$	$V_{DS} = -5\text{ V}, I_D = -3.5\text{ A}$		9.0		S
Schottky Diode Forward Voltage*	$V_{SD}$	$I_S = -0.8\text{ A}, V_{GS} = 0\text{ V}$			-1.2	V
Total Gate Charge	$Q_g$	$V_{DS} = -4\text{ V}, V_{GS} = -4.5\text{ V}, I_D = -3.5\text{ A}$		8.5	12	nC
Gate-Source Charge	$Q_{gs}$			1.5		
Gate-Drain Charge	$Q_{gd}$			2.1		
Input Capacitance	$C_{iss}$	$V_{DS} = -4\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$		970		pF
Output Capacitance	$C_{oss}$			485		
Reverse Transfer Capacitance	$C_{rss}$			160		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -4\text{ V}, R_L = 4\ \Omega, I_D = -1\text{ A}, V_{GEN} = -4.5\text{ V}, R_G = 6\ \Omega$ *		18	25	ns
Rise Time	$t_r$			45	65	
Turn-Off Delay Time	$t_{d(off)}$			40	60	
Fall Time	$t_f$			45	65	

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

## ■ Marking

Marking	C1
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