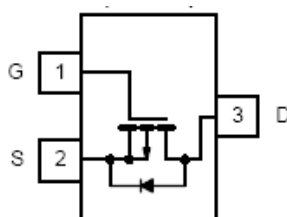
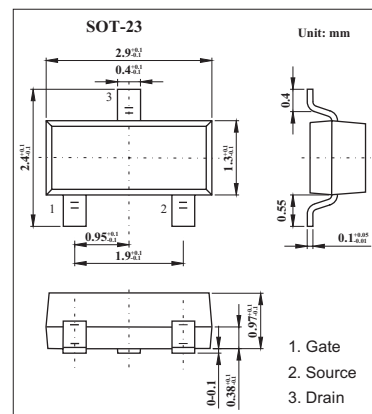


P-Channel 1.8-V (G-S) MOSFET

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}	±8		
Continuous Drain Current (T _J = 150 °C)*1,2 T _A = 25 °C T _A = 70 °C	I _D	-3.5	-3	A
		-2.8	-2.4	
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 °C T _A = 70 °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		°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 *	$t \leq 5 \text{ sec}$	R_{thJA}	100	130	$^\circ\text{C/W}$
	Steady-State		140	175	
Maximum Junction-to-Foot (Drain)	Steady-State	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	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}$, $I_D = -10\text{ }\mu\text{ A}$	-8			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = -250\text{ }\mu\text{ A}$	-0.45		-8	V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}$, $V_{GS} = \pm 8\text{ V}$			± 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	Ω
		$V_{GS} = -2.5\text{ V}$, $I_D = -3\text{ A}$		0.058	0.072	
		$V_{GS} = -1.8\text{ V}$, $I_D = -0.7\text{ A}$		0.096	0.120	
Forward Transconductance ^b	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	$t_{d(on)}$	$V_{DD} = -4\text{ V}$, $R_L = 4\text{ }\Omega$, $I_D = -1\text{ A}$, $V_{GEN} = -4.5\text{ V}$, $R_G = 6\text{ }\Omega$ *		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 $\leq 300\text{ }\mu\text{ s}$, duty cycle $\leq 2\%$

■ Marking

Marking	C1
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