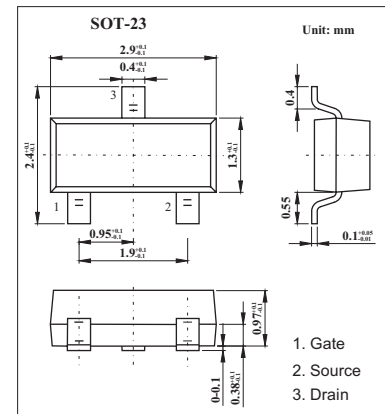
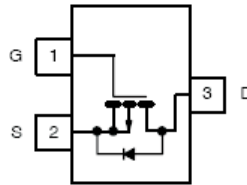


P-Channel 150-V (D-S) MOSFET

KI2325DS

■ Features

- TrenchFET Power MOSFET
- Ultra Low On-Resistance
- Small Size

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

Parameter	Symbol	5 sec	Steady State	Unit
Drain-Source Voltage	V_{DS}	-150		V
Gate-Source Voltage	V_{GS}	± 20		V
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	-0.69 -0.55	-0.53 -0.43	A
Pulsed Drain Current	I_{DM}	-1.6		A
Continuous Source Current (diode conduction) *1,2	I_S	-1.0	-0.6	A
Single-Pulse Avalanche Current $L = 10 \text{ mH}$	I_{AS}	4.5		mJ
Single-Pulse Avalanche Energy $L = 10 \text{ mH}$	E_{AS}	1.01		
Power Dissipation *1,2 $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	P_D	1.25 0.8	0.75 0.48	W
Junction Temperature	T_J	150		$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150		$^\circ\text{C}$

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

*2 Pulse width limited by maximum junction temperature.

■ Thermal Resistance Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient * $t \leq 5 \text{ sec}$	R_{thJA}	75	100	$^\circ\text{C}/\text{W}$
Maximum Junction-to-Ambient Steady State		120	166	
Maximum Junction-to-Foot (Drain) Steady State	R_{thJF}	40	50	

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

KI2325DS

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = -250\ \mu\text{A}$	-150			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-2.5		-4.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 20\text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -150\text{ V}, V_{GS} = 0\text{ V}$			-1	μA
		$V_{DS} = -150\text{ V}, V_{GS} = 0\text{ V}, T_J = 55\text{ }^\circ\text{C}$			-10	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \leq -15\text{ V}, V_{GS} = -10\text{ V}$	-1.6			A
Drain-Source On-State Resistance *	$r_{DS(on)}$	$V_{GS} = -10\text{ V}, I_D = -0.5\text{ A}$		1.0	1.2	Ω
		$V_{GS} = -6.0\text{ V}, I_D = -0.5\text{ A}$		1.05	1.3	
Forward Transconductance *	g_{fs}	$V_{DS} = -15\text{ V}, I_D = -0.5\text{ A}$		2.2		S
Diode Forward Voltage *	V_{SD}	$I_S = -1.0\text{ A}, V_{GS} = 0\text{ V}$		0.7	-1.2	V
Total Gate Charge	Q_g	$V_{DS} = -75\text{ V}, V_{GS} = 10\text{ V}, I_D = -0.5\text{ A}$		7.7	12	nC
Gate-Source Charge	Q_{gs}			1.5		
Gate-Drain Charge	Q_{gd}			2.5		
Gate Resistance	R_g	$f = 1.0\text{ MHz}$		9		Ω
Input Capacitance	C_{iss}	$V_{DS} = -25\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$		340	510	pF
Output Capacitance	C_{oss}			30		
Reverse Transfer Capacitance	C_{rss}			16		
Turn-On Time	$t_{d(on)}$	$V_{DD} = -75\text{ V}, R_L = 75\ \Omega, I_D = -1\text{ A}, V_{GEN} = -10\text{ V}, R_G = 6\ \Omega$		7	11	ns
	t_r			11	17	
Turn-Off Time	$t_{d(off)}$			16	25	
	t_f			11	17	
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F = 0.5\text{ A}, di/dt = 100\text{ A}/\mu\text{s}$		90	135	nC

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

■ Marking

Marking	D5
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