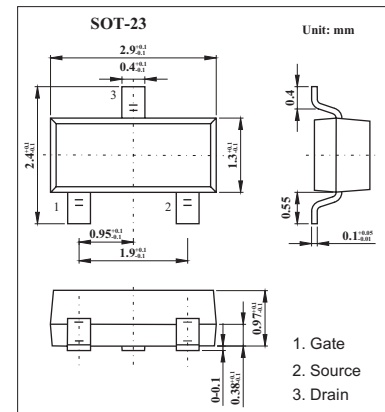
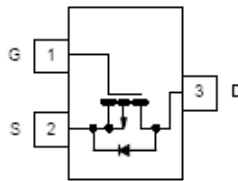


P-Channel 20-V (D-S) MOSFET

KI2323DS

■ Features

- TrenchFET Power MOSFET

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

Parameter	Symbol	5 sec	Steady State	Unit
Drain-Source Voltage	V_{DS}	-20		V
Gate-Source Voltage	V_{GS}	± 8		V
Continuous Drain Current ($T_J=150^\circ\text{C}$) *1,2 $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	I_D	-4.7 -3.8	-3.7 -2.9	A
Pulsed Drain Current	I_{DM}	-20		A
Continuous Source Current (diode conduction) *1,2	I_S	-1.0	-0.6	A
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 * $t \leq 5$ sec	R_{thJA}	75	100	$^\circ\text{C/W}$
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.

KI2323DS

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V(BR)DSS	VGS = 0 V, ID = -250 μA	-20			V
Gate Threshold Voltage	VGS(th)	VDS = VGS, ID = -250 μA	-0.40		-1.0	
Gate-Body Leakage	IGSS	VDS = 0 V, VGS = ±8 V			±100	nA
Zero Gate Voltage Drain Current	IDSS	VDS = -16 V, VGS = 0 V			-1	μA
		VDS = -16 V, VGS = 0 V, TJ = 55 °C			-10	
On-State Drain Current	ID(on)	VDS ≤ -5 V, VGS = -4.5V	-20			A
Drain-Source On-State Resistance *	rDS(on)	VGS = -4.5 V, ID = -4.7 A		0.031	0.039	Ω
		VGS = -2.5 V, ID = -4.1 A		0.041	0.052	
		VGS = -1.8 V, ID = -2.0 A		0.054	0.068	
Forward Transconductance *	gfs	VDS = -5 V, ID = -4.7 A		16		S
Diode Forward Voltage *	VSD	IS = -1.0 A, VGS = 0 V		0.7	-1.2	V
Total Gate Charge	Qg	VDS = -10V, VGS = -4.5 V, ID = -4.7 A		12.5	19	nC
Gate-Source Charge	Qgs			1.7		
Gate-Drain Charge	Qgd			3.3		
Input Capacitance	Ciss	VDS = -10V, VGS = 0, f = 1 MHz		1020		pF
Output Capacitance	Coss			191		
Reverse Transfer Capacitance	Crss			140		
Turn-On Time	td(on)	VDD = -10V, RL = 10 Ω, ID = -1A, VGEN = -4.5V, RG = 6 Ω		25	40	ns
	tr			43	65	
Turn-Off Time	td(off)			71	110	
	tf			48	75	

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

■ Marking

Marking	D3
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