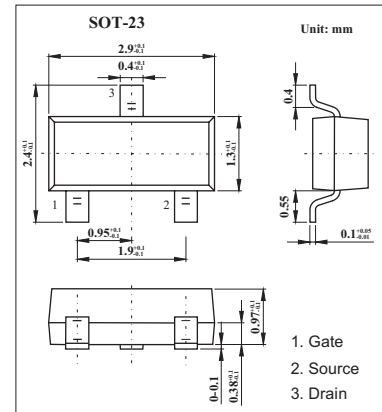
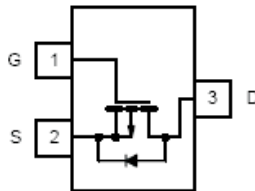


P-Channel 30-V (D-S) MOSFET

KI2341DS

■ 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}		-30	V
Gate-Source Voltage	V_{GS}		± 20	V
Continuous Drain Current ($T_J=150^\circ\text{C}$) *1 $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	I_D	-2.8 -2.2	-2.5 -2.0	A
Pulsed Drain Current *2	I_{DM}		-12	A
Continuous Source Current (diode conduction) *1	I_S	-0.75	-0.6	A
Power Dissipation *1 $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	P_D	0.9 0.57	0.71 0.45	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

* 1 Surface Mounted on FR4 Board, $t \leq 5$ sec.

*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 *1	R_{thJA}	115	140	$^\circ\text{C}/\text{W}$
Maximum Junction-to-Ambient *2 Steady State		140	175	
Maximum Junction-to-Foot (Drain) Steady State	R_{thJF}	60	75	

* 1. Surface Mounted on FR4 Board, $t \leq 5$ sec.

* 2. Surface Mounted on FR4 Board.

KI2341DS

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = -10\ \mu\text{A}$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-1.0		-3.0	
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}	$V_{DS} = -24\text{ V}, V_{GS} = 0\text{ V}$			-1	μA
		$V_{DS} = -24\text{ V}, V_{GS} = 0\text{ V}, T_J = 55\text{ }^\circ\text{C}$			-10	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \leq -5\text{ V}, V_{GS} = -10\text{V}$	-6			A
Drain-Source On-State Resistance *	$r_{DS(on)}$	$V_{GS} = -10\text{ V}, I_D = -2.8\text{ A}$		0.057	0.072	Ω
		$V_{GS} = -4.5\text{ V}, I_D = -2.0\text{ A}$		0.090	0.120	
Forward Transconductance *	g_{fs}	$V_{DS} = -5\text{ V}, I_D = -2.8\text{ A}$		8.0		S
Diode Forward Voltage *	V_{SD}	$I_S = -0.75\text{ A}, V_{GS} = 0\text{ V}$		-0.8	-1.2	V
Total Gate Charge	Q_g	$V_{DS} = -15\text{V}, V_{GS} = -10\text{ V}, I_D = -2.8\text{ A}$		9.5	15	nC
Gate-Source Charge	Q_{gs}			1.5		
Gate-Drain Charge	Q_{gd}			2.5		
Input Capacitance	C_{iss}	$V_{DS} = -15\text{V}, V_{GS} = 0, f = 1\text{ MHz}$		400		pF
Output Capacitance	C_{oss}			95		
Reverse Transfer Capacitance	C_{rss}			70		
Turn-On Time	$t_{d(on)}$	$V_{DD} = -15\text{V}, R_L = 15\ \Omega, I_D = -1\text{A}, V_{GEN} = -4.5\text{ V}, R_G = 6\ \Omega$		7	15	ns
	t_r			15	25	
Turn-Off Time	$t_{d(off)}$			20	30	
	t_f			20	30	

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

■ Marking

Marking	F1
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