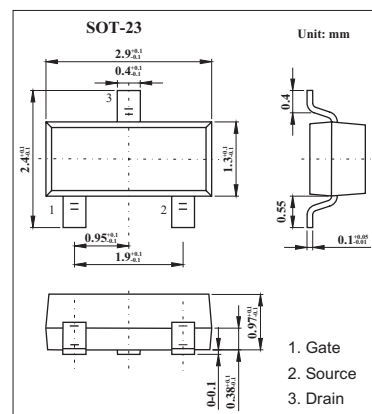
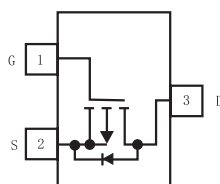


P-Channel, 30-V (G-S) MOSFET

KI2303BDS

■ Features

- RoH Lead (Pb)-Free Version is RoHS Compliant.

■ 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 ($T_J=150^\circ\text{C}$) *2 $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	I_D	-1.4 -1.1	-1.3 -1.0	A
Pulsed Drain Current *1	I_{DM}	-10		A
Continuous Source Current (diode conduction) *2	I_S	-0.75	-0.6	A
Power Dissipation *2 $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	P_D	0.9 0.57	0.7 0.45	W
Junction Temperature	T_J	150		$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150		$^\circ\text{C}$

* 1. Pulse width limited by maximum junction temperature.

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

* 3. Surface Mounted on FR4 Board.

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

Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient *1	R_{thJA}	120	145	$^\circ\text{C/W}$
Maximum Junction-to-Ambient *2		140	175	

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

* 2. Surface Mounted on FR4 Board.

KI2303BDS

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}$, $I_D = -10\text{ }\mu\text{A}$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = -250\text{ }\mu\text{A}$	-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}	$V_{DS} = -30\text{ V}$, $V_{GS} = 0\text{ V}$			-1	μA
		$V_{DS} = -30\text{ V}$, $V_{GS} = 0\text{ V}$, $T_J = 55\text{ }^\circ\text{C}$			-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 *	$r_{DS(on)}$	$V_{GS} = -10\text{ V}$, $I_D = -1.7\text{ A}$		0.15	0.2	Ω
		$V_{GS} = -4.5\text{ V}$, $I_D = -1.3\text{ A}$		0.285	0.38	
Forward Transconductance *	g_{fs}	$V_{DS} = -5\text{ V}$, $I_D = -1.7\text{ A}$		2.0		S
Diode Forward Voltage *	V_{SD}	$I_S = -0.75\text{ A}$, $V_{GS} = 0\text{ V}$		-0.85	-1.2	V
Total Gate Charge	Q_g	$V_{DS} = -15\text{ V}$, $V_{GS} = -10\text{ V}$, $I_D = -1.7\text{ A}$		4.3	10	nC
Gate-Source Charge	Q_{gs}			0.8		
Gate-Drain Charge	Q_{gd}			1.3		
Input Capacitance	C_{iss}	$V_{DS} = -15\text{ V}$, $V_{GS} = 0$, $f = 1\text{ MHz}$		180		pF
Output Capacitance	C_{oss}			50		
Reverse Transfer Capacitance	C_{rss}			35		
Turn-On Time	$t_{d(on)}$	$V_{DD} = -15\text{ V}$, $R_L = 15\text{ }\Omega$, $I_D = -1\text{ A}$, $V_{GEN} = -4.5\text{ V}$, $R_G = 6\text{ }\Omega$		55	80	ns
	t_r			40	60	
Turn-Off Time	$t_{d(off)}$			10	20	
	t_f			10	20	

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

■ Marking

Marking	L3
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