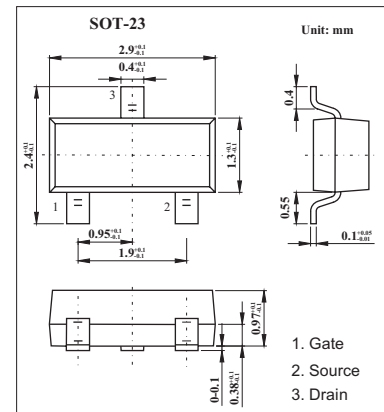
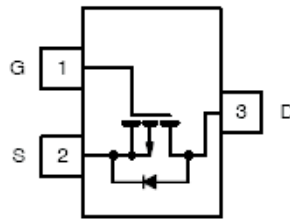


P-Channel 1.8-V (G-S) MOSFET

KI2315BDS

■ Features

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

Parameter	Symbol	5 sec	Steady State	Unit
Drain-Source Voltage	V_{DS}	-12		V
Gate-Source Voltage	V_{GS}	± 8		V
Continuous Drain Current ($T_J=150^\circ\text{C}$) * $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	I_D	-3.85 -3.0	-3.0 -2.45	A
Pulsed Drain Current *	I_{DM}	-12		A
Continuous Source Current (diode conduction) *2	I_S	-1.0	-0.62	A
Power Dissipation * $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	P_D	1.19 0.76	0.75 0.48	W
Junction Temperature	T_J	150		$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150		$^\circ\text{C}$

* 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}	85	105	$^\circ\text{C}/\text{W}$
Maximum Junction-to-Ambient *2 Steady State		130	166	
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.

KI2315BDS

■ Electrical Characteristics Ta = 25 °C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V(BR)DSS	V _{GS} = 0 V, I _D = -10 μA	-12			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-0.45		-0.9	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -12 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -12 V, V _{GS} = 0 V, T _J = 55 °C			-10	
On-State Drain Current	I _{D(on)}	V _{DS} ≤ -5 V, V _{GS} = -4.5 V	-6			A
		V _{DS} ≤ -5 V, V _{GS} = -2.5 V	-3			
Drain-Source On-State Resistance *	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -3.85 A		0.040	0.050	Ω
		V _{GS} = -2.5 V, I _D = -3.4 A		0.05	0.065	
		V _{GS} = -1.8V, I _D = -2.7 A		0.071	0.100	
Forward Transconductance *	g _{fs}	V _{DS} = -5 V, I _D = -3.85 A		7		S
Diode Forward Voltage *	V _{SD}	I _S = -1.6 A, V _{GS} = 0 V			-1.2	V
Total Gate Charge	Q _g	V _{DS} = -6V, V _{GS} = -4.5 V, I _D = -3.85 A		8	15	nC
Gate-Source Charge	Q _{gs}			1.1		
Gate-Drain Charge	Q _{gd}			2.3		
Input Capacitance	C _{iss}	V _{DS} = -6V, V _{GS} = 0, f = 1 MHz		715		pF
Output Capacitance	C _{oss}			275		
Reverse Transfer Capacitance	C _{rss}			200		
Turn-On Time	t _{d(on)}	V _{DD} = -6V, R _L = 6Ω, I _D = -1A, V _{GEN} = -4.5V, R _G = 6Ω		15	20	ns
	t _r			35	50	
Turn-Off Time	t _{d(off)}			50	70	
	t _f			50	75	

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

■ Marking

Marking	M5
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