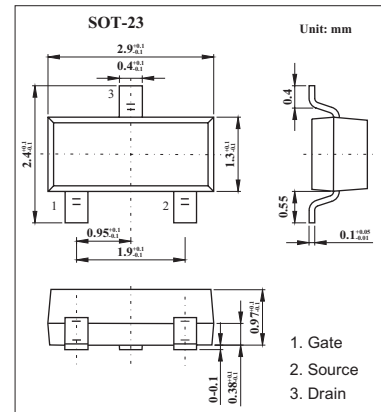
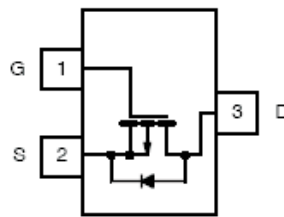


P-Channel 30-V (D-S) MOSFET

KI2307BDS

■ Features

- TrenchFET Power MOSFET
- 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 ($T_J=150^\circ\text{C}$) * $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	I_D	-3.2 -2.6	-2.5 -2.0	A
Pulsed Drain Current *	I_{DM}		-12	A
Continuous Source Current (diode conduction) *2	I_S	-1.25	-0.75	A
Power Dissipation * $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	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	$^\circ\text{C}$

* 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}	80	100	$^\circ\text{C}/\text{W}$
Maximum Junction-to-Ambient *2 Steady State		130	166	

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

* 2. Surface Mounted on FR4 Board.

KI2307BDS

■ 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	-30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1.0		-3.0	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -30 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -30 V, V _{GS} = 0 V, T _J = 55 °C			-10	
On-State Drain Current	I _{D(on)}	V _{DS} ≤ -10 V, V _{GS} = -10 V	-6			A
Drain-Source On-State Resistance *	r _{DS(on)}	V _{GS} = -10 V, I _D = -3.2 A		0.063	0.078	Ω
		V _{GS} = -4.5 V, I _D = -2.5 A		0.105	0.130	
Forward Transconductance *	g _{fs}	V _{DS} = -10 V, I _D = -3.2 A		5.0		S
Diode Forward Voltage *	V _{SD}	I _S = -0.75A, V _{GS} = 0 V		-0.85	-1.2	V
Total Gate Charge	Q _g	V _{DS} = -15V, V _{GS} = -10 V, I _D = -1.7 A		9.0	15	nC
Gate-Source Charge	Q _{gs}			1.4		
Gate-Drain Charge	Q _{gd}			2.4		
Gate Resistance	R _g	f = 1.0 MHz		8		Ω
Input Capacitance	C _{iss}	V _{DS} = -15V, V _{GS} = 0, f = 1 MHz		380		pF
Output Capacitance	C _{oss}			100		
Reverse Transfer Capacitance	C _{rss}			75		
Turn-On Time	t _{d(on)}	V _{DD} = -15V, R _L = 15 Ω, I _D = -1A, V _{GEN} = -4.5V, R _G = 6 Ω		9	20	ns
	t _r			12	20	
Turn-Off Time	t _{d(off)}			25	40	
	t _f			14	21	

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

■ Marking

Marking	L7
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