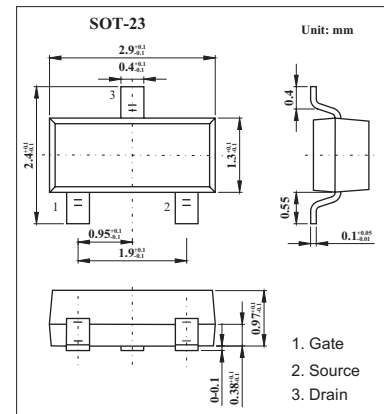
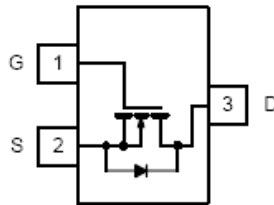


N-Channel 100-V (D-S) MOSFET

KI2328DS

■ Features

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

Parameter	Symbol	5 sec	Steady State	Unit
Drain-Source Voltage	V_{DS}	100		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	1.5 1.2	1.15 0.92	A
Pulsed Drain Current *2	I_{DM}	6		A
Single-Pulse Avalanche Current *2 $L = 10 \text{ mH}$	I_{AS}	6		mJ
Single-Pulse Avalanche Energy $L = 10 \text{ mH}$	E_{AS}	1.8		
Continuous Source Current (Diode Conduction)*1	I_S	0.6		
Power Dissipation *1 $T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$	P_D	1.25 0.8	0.75 0.47	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 * $t \leq 5 \text{ sec}$	R_{thJA}	80	100	$^\circ\text{C/W}$
Maximum Junction-to-Ambient Steady State		130	170	
Maximum Junction-to-Foot (Drain) Steady State	R_{thJF}	45	55	

* Surface Mounted on 1" X 1" FR4 Board.

KI2328DS

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 1\text{ mA}$	100			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\text{ }\mu\text{ A}$	2			
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}	$V_{DS} = 80\text{ V}, V_{GS} = 0\text{ V}$			1	$\mu\text{ A}$
		$V_{DS} = 80\text{ V}, V_{GS} = 0\text{ V}, T_J = 70\text{ }^\circ\text{ C}$			75	
On-State Drain Current	$I_{D(on)}$	$V_{DS} \geq 15\text{ V}, V_{GS} = 10\text{ V}$	6			A
Drain-Source On-State Resistance *	$r_{DS(on)}$	$V_{GS} = 10\text{ V}, I_D = 1.5\text{ A}$		0.195	0.250	Ω
Forward Transconductance *	g_{fs}	$V_{DS} = 15\text{ V}, I_D = 1.5\text{ A}$		4		S
Diode Forward Voltage *	V_{SD}	$I_S = 1.0\text{ A}, V_{GS} = 0\text{ V}$		0.8	1.2	V
Total Gate Charge	Q_g	$V_{DS} = 50\text{ V}, V_{GS} = 10\text{ V}, I_D = 1.5\text{ A}$		3.3	4.0	nC
Gate-Source Charge	Q_{gs}			0.47		
Gate-Drain Charge	Q_{gd}			1.45		
Turn-On Time	$t_{d(on)}$	$V_{DD} = 50\text{ V}, R_L = 33\text{ }\Omega,$ $I_D = 0.2\text{ A}, V_{GEN} = 10\text{ V}, R_G = 6\text{ }\Omega$		7	11	ns
	t_r			11	17	
Turn-Off Time	$t_{d(off)}$			9	15	
	t_f			10	15	
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F = 1.5\text{ A}, di/dt = 100\text{ A}/\mu\text{ s}$		50	100	nC

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

■ Marking

Marking	D8
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