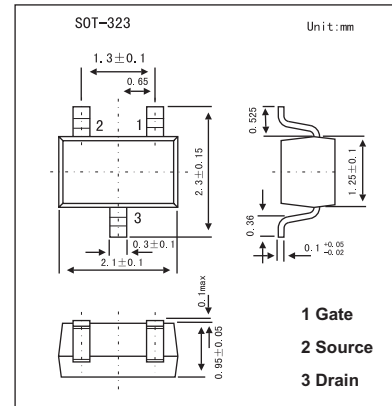
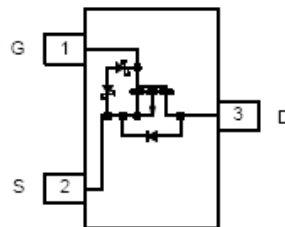


P-Channel 2.5-V (G-S) MOSFET

KI1303EDL

■ Features

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

Parameter	Symbol	5 secs	Steady State	Unit
Drain-source voltage	V_{DS}		-20	V
Gate-source voltage	V_{GS}		± 12	V
Continuous drain current ($T_J = 150^\circ\text{C}$)	I_D	± 0.72 ± 0.58	± 0.67 ± 0.54	A
				$T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$
Pulsed drain current	I_{DM}		± 2.5	A
Continuous source current (diode conduction) *	I_S	-0.28	-0.24	A
Power dissipation *	P_D	0.34 0.22	0.29 0.19	W
				$T_A=25^\circ\text{C}$ $T_A=70^\circ\text{C}$
Operating junction and storage temperature range	T_J, T_{stg}	-55 to +150		$^\circ\text{C}$

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

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

Parameter	Symbol	Typical	Maximum	Unit	
Maximum Junction-to-Ambient*	R_{thJA}	$t \leq 5$ sec	315	375	$^\circ\text{C}/\text{W}$
		Steady State	360	430	
Maximum Junction-to-Foot (Drain)	R_{thJF}	285	340		

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

KI1303EDL

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-0.6			V
Gate-body leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±4.5 V			±1	μA
Zero gate voltage drain current	I _{DSS}	V _{DS} = -20 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -20 V, V _{GS} = 0 V, T _J = 70 °C			-5	
On-state drain current	I _{D(on)}	V _{DS} = -5 V, V _{GS} = -4.5 V	1.5			A
Drain-source on-state resistance	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -1 A		0.360	0.430	Ω
		V _{GS} = -3.6V, I _D = -0.7 A		0.400	0.480	
		V _{GS} = -2.5V, I _D = -0.3 A		0.560	0.700	
Forward transconductance	g _{fs}	V _{DS} = -10 V, I _D = -1 A		1.7		S
Diode forward voltage	V _{SD}	I _S = -1 A, V _{GS} = 0 V			-1.2	V
Total gate charge *	Q _g	V _{DS} = -10V, V _{GS} = -4.5 V, I _D = -1A		1.9	2.5	nC
Gate-source charge *	Q _{gs}			0.45		
Gate-drain charge *	Q _{gd}			0.44		
Turn-on time	t _{d(on)}	V _{DD} = -10V, R _L = 10 Ω, I _D = -1A, V _{GEN} = -4.5V, R _G = 6 Ω		180	300	ns
	t _r			410	655	
Turn-off time	t _{d(off)}			560	900	
	t _f			530	850	
Source-Drain Reverse Recovery Time	t _{rr}		I _F = -1 A, di/dt = 100 A/μs		435	

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

■ Marking

Marking	LD
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