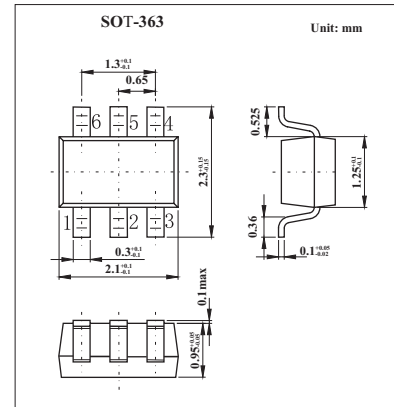
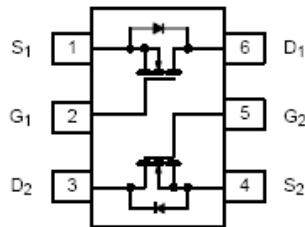


Dual N-Channel 20-V (D-S) MOSFET

KI1902DL

■ 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	$T_A = 25^\circ\text{C}$	0.70	A
		$T_A = 85^\circ\text{C}$	0.50	
Pulsed drain current	I_{DM}	1.0		A
Continuous source current (diode conduction) *	I_S	0.25	0.23	A
Power dissipation *	P_D	$T_A = 25^\circ\text{C}$	0.30	W
		$T_A = 85^\circ\text{C}$	0.16	
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*	$t \leq 5 \text{ sec}$	R_{thJA}	360	415	$^\circ\text{C/W}$
	Steady State		400	460	
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	300	350	

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

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 \mu A$	0.6		15	V
Gate-body leakage	I_{GSS}	$V_{DS} = 0 V, V_{GS} = \pm 12 V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 16 V, V_{GS} = 0 V$			1	μA
		$V_{DS} = 16 V, V_{GS} = 0 V, T_J = 85 ^\circ C$			5	
On-state drain current	$I_{D(on)}$	$V_{DS} \geq 5 V, V_{GS} = 4.5 V$	1.0			A
Drain-source on-state resistance	$r_{DS(on)}$	$V_{GS} = 4.5 V, I_D = 0.66 A$		0.320	0.385	Ω
		$V_{GS} = 2.5 V, I_D = 0.40 A$		0.560	0.630	
Forward transconductance	g_{fs}	$V_{DS} = 10 V, I_D = 0.66 A$		1.5		S
Diode forward voltage	V_{SD}	$I_S = 0.23 A, V_{GS} = 0 V$		0.8	1.2	V
Total gate charge *	Q_g	$V_{DS} = 10 V, V_{GS} = 4.5 V, I_D = 0.66 A$		0.8	1.2	nC
Gate-source charge *	Q_{gs}			0.06		
Gate-drain charge *	Q_{gd}			0.30		
Turn-on time	$t_{d(on)}$	$V_{DD} = 10 V, R_L = 20 \Omega, I_D = 0.5 A, V_{GEN} = 4.5 V, R_G = 6 \Omega$		10	20	ns
	t_r			16	30	
Turn-off time	$t_{d(off)}$			10	20	
	t_f			10	20	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 0.23 A, di/dt = 100 A/\mu s$		20	40	

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

■ Marking

Marking	PA
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