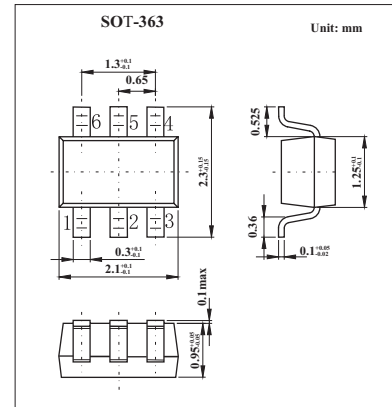
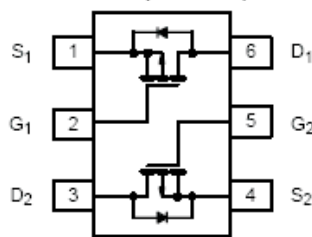


## Dual P-Channel 2.5-V (G-S) MOSFET

## KI1903DL

## ■ 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	$V_{GS}$	$\pm 12$		V
Continuous drain current ( $T_J = 150^\circ\text{C}$ )* $T_A = 25^\circ\text{C}$ $T_A = 85^\circ\text{C}$	$I_D$	$\pm 0.44$ $\pm 0.31$	$\pm 0.41$ $\pm 0.30$	A
Pulsed drain current	$I_{DM}$	$\pm 1.0$		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 $T_A = 85^\circ\text{C}$ 0.16	0.27 0.14	W
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*	$R_{thJA}$	$t \leq 5 \text{ sec}$	360	415	$^\circ\text{C}/\text{W}$
		Steady State	400	460	
Maximum Junction-to-Foot (Drain)	$R_{thJF}$	300	350		

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

## KI1903DL

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 μ A	-0.6			V
Gate-body leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±12 V			±100	nA
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -16 V, V <sub>GS</sub> = 0 V			-1	μ A
		V <sub>DS</sub> = -16 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 85 °C			-5	
On-state drain current	I <sub>D(on)</sub>	V <sub>DS</sub> = -5 V, V <sub>GS</sub> = -4.5 V	-1.0			A
Drain-source on-state resistance	r <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -0.41 A		0.850	0.995	Ω
		V <sub>GS</sub> = -3.6 V, I <sub>D</sub> = -0.38 A		1.0	1.190	
		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -0.25A		1.4	1.80	
Forward transconductance	g <sub>fs</sub>	V <sub>DS</sub> = -10 V, I <sub>D</sub> = -0.41 A		0.8		S
Diode forward voltage	V <sub>SD</sub>	I <sub>S</sub> = -0.23 A, V <sub>GS</sub> = 0 V		-0.8	-1.2	V
Total gate charge *	Q <sub>g</sub>	V <sub>DS</sub> = -10V, V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -0.41A		1.2	1.8	nC
Gate-source charge *	Q <sub>gs</sub>		0.45			
Gate-drain charge *	Q <sub>gd</sub>		0.25			
Turn-on time	t <sub>d(on)</sub>	V <sub>DD</sub> = -10V, R <sub>L</sub> = 20 Ω, I <sub>D</sub> = -0.5A, V <sub>GEN</sub> = -4.5V, R <sub>G</sub> = 6 Ω		7.5	15	ns
	t <sub>r</sub>			20	40	
Turn-off time	t <sub>d(off)</sub>			8.5	17	
	t <sub>f</sub>			12	24	
Source-Drain Reverse Recovery Time	t <sub>rr</sub>		I <sub>F</sub> = -0.23 A, di/dt = 100 A/μ s		25	

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

## ■ Marking

Marking	QA
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