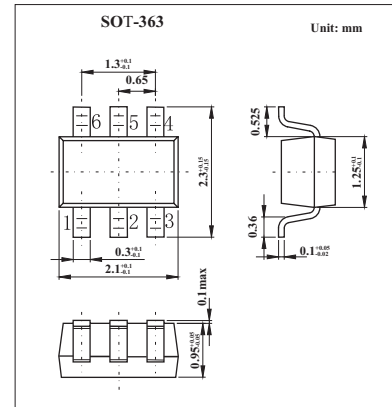
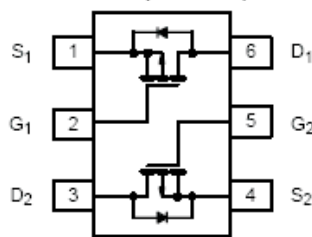


Dual P-Channel 2.5-V (G-S) MOSFET

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}	± 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	± 0.44 ± 0.31	± 0.41 ± 0.30	A
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 $T_A = 85^\circ\text{C}$ 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	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu A$	-0.6			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	$I_{D(on)}$	$V_{DS} = -5 V, V_{GS} = -4.5 V$	-1.0			A
Drain-source on-state resistance	$r_{DS(on)}$	$V_{GS} = -4.5 V, I_D = -0.41 A$		0.850	0.995	Ω
		$V_{GS} = -3.6 V, I_D = -0.38 A$		1.0	1.190	
		$V_{GS} = -2.5V, I_D = -0.25A$		1.4	1.80	
Forward transconductance	g_{fs}	$V_{DS} = -10 V, I_D = -0.41 A$		0.8		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	$V_{DS} = -10V, V_{GS} = -4.5 V, I_D = -0.41A$		1.2	1.8	nC
Gate-source charge *	Q_{gs}		0.45			
Gate-drain charge *	Q_{gd}		0.25			
Turn-on time	$t_{d(on)}$	$V_{DD} = -10V, R_L = 20 \Omega, I_D = -0.5A, V_{GEN} = -4.5V, R_G = 6 \Omega$		7.5	15	ns
	t_r			20	40	
Turn-off time	$t_{d(off)}$			8.5	17	
	t_f			12	24	
Source-Drain Reverse Recovery Time	t_{rr}		$I_F = -0.23 A, di/dt = 100 A/\mu s$		25	

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

■ Marking

Marking	QA
---------	----