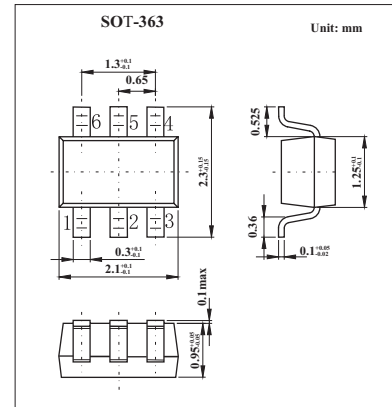
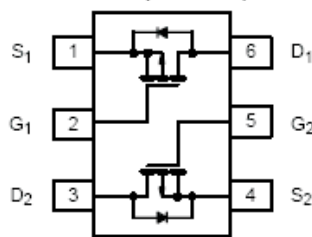


Dual P-Channel 2.5-V (G-S) MOSFET

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 |
| | | $V_{DS} = -16 V, V_{GS} = 0 V, T_J = 85 \text{ }^\circ C$ | | | -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 |
|---------|----|