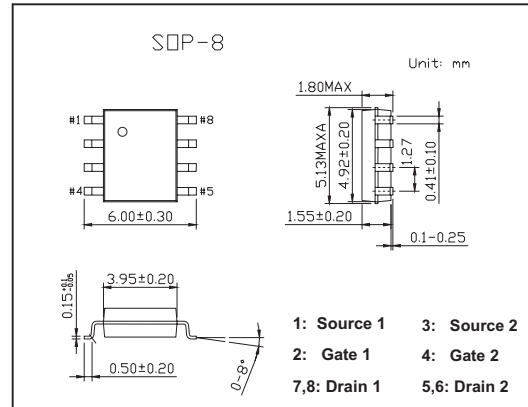
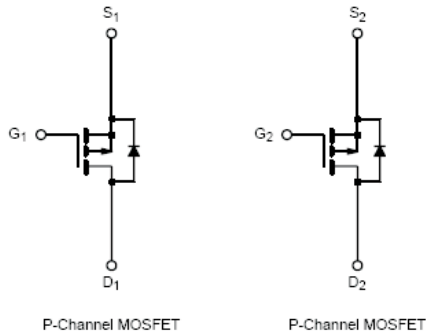


KI4923DY

■ Features

- TrenchFET Power MOSFETS
- Advanced High Cell Density Process



■ Absolute Maximum Ratings Ta = 25°C

| Parameter | | Symbol | 10 secs | Steady State | Unit |
|--|-----------------------|-----------------------------------|------------|--------------|------|
| Drain-Source Voltage | | V _{DS} | -30 | | V |
| Gate-Source Voltage | | V _{GS} | ±20 | | |
| Continuous Drain Current (T _J = 150 °C) * | T _A = 25°C | I _D | -8.3 | -6.2 | A |
| | T _A = 70°C | | -6.6 | -5 | |
| Pulsed Drain Current | | I _{DM} | -30 | | |
| Continuous Source Current * | | I _S | -1.7 | -0.9 | |
| Maximum Power Dissipation * | T _A = 25°C | P _D | 2 | 1.1 | W |
| | T _A = 70°C | | 1.3 | 0.7 | |
| Operating Junction and Storage Temperature Range | | T _J , T _{stg} | -55 to 150 | | °C |
| Parameter | | Symbol | Typ | Max | Unit |
| Maximum Junction-to-Ambient* | t ≤ 10 sec | R _{thJA} | 45 | 62.5 | °C/W |
| | Steady-State | | 85 | 110 | |
| Maximum Junction-to-Foot (Drain) | Steady-State | R _{thJF} | 26 | 35 | |

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

■ 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 | -1 | | -3 | V |
| Gate-Body Leakage | I _{GSS} | V _{DS} = 0 V, V _{GS} = ±20 V | | | ±100 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} = -24V, V _{GS} = 0 V | | | -1 | μA |
| | | V _{DS} = -24V, V _{GS} = 0 V, T _J = 85°C | | | -25 | μA |
| On-State Drain Current* | I _{D(on)} | V _{DS} = -5 V, V _{GS} = -10 V | -30 | | | A |
| Drain-Source On-State Resistance* | r _{DS(on)} | V _{GS} = -10 V, I _D = -8.3A | | 0.017 | 0.021 | Ω |
| | | V _{GS} = -4.5 V, I _D = -6.8A | | 0.025 | .031 | Ω |
| Forward Transconductance* | g _{fs} | V _{DS} = -10 V, I _D = -8.3A | | 26 | | S |
| Schottky Diode Forward Voltage* | V _{SD} | I _S = -1.7 A, V _{GS} = 0 V | | -0.8 | -1.2 | V |
| Total Gate Charge | Q _g | V _{DS} = -15V, V _{GS} = -10 V, I _D = -8.3 A | | 45.5 | 70 | nC |
| Gate-Source Charge | Q _{gs} | | | 6.5 | | nC |
| Gate-Drain Charge | Q _{gd} | | | 12.6 | | nC |
| Turn-On Delay Time | t _{d(on)} | V _{DD} = -15 V, R _L = 15 Ω I _D = -1 A, V _{GEN} = -10V, R _G = 6 Ω | | 15 | 25 | ns |
| Rise Time | t _r | | | 10 | 15 | ns |
| Turn-Off Delay Time | t _{d(off)} | | | 135 | 210 | ns |
| Fall Time | t _f | | | 80 | 120 | ns |
| Source-Drain Reverse Recovery Time | t _{rr} | I _F = -1.7 A, di/dt = 100 A/μs | | 70 | 110 | ns |

* Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.