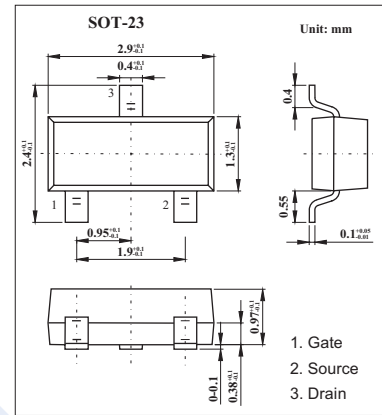
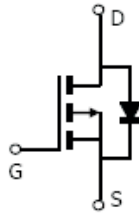


P-Channel Enhancement Mode Field Effect Transistor KO3409(AO3409)

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -2.6 A (V_{GS} = -10V)$
- $R_{DS(ON)} < 130m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 200m\Omega (V_{GS} = -4.5V)$



■ Absolute Maximum Ratings $T_a = 25^\circ C$

| Parameter | Symbol | Rating | Unit |
|---|----------------|------------------|--------------|
| Drain-Source Voltage | V_{DS} | -30 | V |
| Gate-Source Voltage | V_{GS} | ± 20 | V |
| Continuous Drain Current | I_D | $T_A=25^\circ C$ | -2.6 |
| | | $T_A=70^\circ C$ | -2.2 |
| Pulsed Drain Current | I_{DM} | -20 | A |
| Power Dissipation | P_D | $T_A=25^\circ C$ | 1.4 |
| | | $T_A=70^\circ C$ | 1 |
| Thermal Resistance. Junction-to-Ambient | R_{thJA} | 100 | $^\circ C/W$ |
| Thermal Resistance. Junction-to-Case | R_{thJC} | 63 | $^\circ C/W$ |
| Junction and Storage Temperature Range | T_J, T_{STG} | -55 to 150 | $^\circ C$ |

KO3409(AO3409)

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Testconditions | Min | Typ | Max | Unit |
|---------------------------------------|---------------------|--|-----|-------|------|------|
| Drain-Source Breakdown Voltage | V _{DSS} | I _D =250 μ A, V _{GS} =0V | -30 | | | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =-24V, V _{GS} =0V | | | -1 | μ A |
| | | V _{DS} =-24V, V _{GS} =0V, T _J =55°C | | | -5 | |
| Gate-Body leakage current | I _{GSS} | V _{DS} =0V, V _{GS} =±20V | | | ±100 | nA |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} I _D =-250 μ A | -1 | -1.9 | -3 | V |
| Static Drain-Source On-Resistance | r _{DS(ON)} | V _{GS} =-10V, I _D =-2.6A | | 97 | 130 | mΩ |
| | | V _{GS} =-10V, I _D =-2.6A T _J =125°C | | 135 | 150 | |
| | | V _{GS} =-4.5V, I _D =-2A | | 166 | 200 | mΩ |
| On state drain current | I _{D(ON)} | V _{GS} =-4.5V, V _{DS} =-5V | -5 | | | A |
| Forward Transconductance | g _{fs} | V _{DS} =-5V, I _D =-5A | 3 | 3.8 | | S |
| Input Capacitance | C _{iss} | V _{GS} =0V, V _{DS} =-15V, f=1MHz | | 302 | 370 | pF |
| Output Capacitance | C _{oss} | | | 50.3 | | pF |
| Reverse Transfer Capacitance | C _{rss} | | | 37.8 | | pF |
| Gate resistance | R _g | V _{GS} =0V, V _{DS} =0V, f=1MHz | | 12 | 18 | Ω |
| Total Gate Charge (10V) | Q _g | V _{GS} =-4.5V, V _{DS} =-15V, I _D =-2.6A | | 6.8 | 9 | nC |
| Total Gate Charge (4.5V) | | | | 2.4 | | nC |
| Gate Source Charge | Q _{gs} | | | 1.6 | | nC |
| Gate Drain Charge | Q _{gd} | | | 0.95 | | nC |
| Turn-On DelayTime | t _{D(on)} | | | 7.5 | | ns |
| Turn-On Rise Time | t _r | V _{GS} =-10V, V _{DS} =-15V, R _L =5.8 Ω, R _{GEN} =3 Ω | | 3.2 | | ns |
| Turn-Off DelayTime | t _{D(off)} | | | 17 | | ns |
| Turn-Off Fall Time | t _f | | | 6.8 | | ns |
| Body Diode Reverse Recovery Time | t _{rr} | I _F =-2.6A, dI/dt=100A/μ s | | 16.8 | 22 | ns |
| Body Diode Reverse Recovery Charge | Q _{rr} | I _F =-2.6A, dI/dt=100A/μ s | | 10 | | nC |
| Maximum Body-Diode Continuous Current | I _S | | | | -2 | A |
| Diode Forward Voltage | V _{SD} | I _S =-1A, V _{GS} =0V | | -0.82 | -1 | V |

* Repetitive rating, pulse width limited by junction temperature.