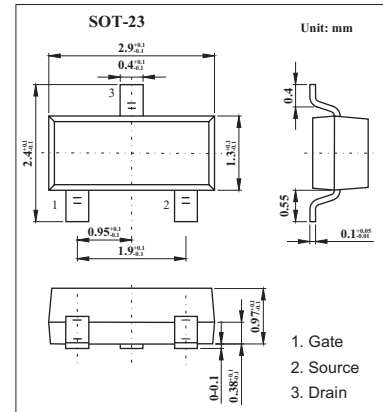
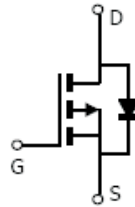


P-Channel Enhancement Mode Field Effect Transistor KO3401

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -4.2 A$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 50m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 65m\Omega$ ($V_{GS} = -4.5V$)
- $R_{DS(ON)} < 120m\Omega$ ($V_{GS} = -2.5V$)



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current *1 $T_A=25^\circ C$	I_D	-4.2	A
Current *1 $T_A=70^\circ C$		-3.5	
Pulsed Drain Current *2		I_{DM}	
Power Dissipation *1 $T_A=25^\circ C$	P_D	1.4	W
$T_A=70^\circ C$		1	
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ C$

*1The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz.

Copper, in a still air environment with $T_A = 25^\circ C$

*2 Repetitive rating, pulse width limited by junction temperature.

■ Thermal Characteristics

Parameter		Symbol	Typ	Max	Unit
Maximum Junction-to-Ambient*1	$t \leq 10s$	$R_{\theta JA}$	65	90	$^\circ C/W$
Maximum Junction-to-Ambient *1	Steady-State		85	125	$^\circ C/W$
Maximum Junction-to-Lead *2	Steady-State	$R_{\theta JL}$	43	60	$^\circ C/W$

*1The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz.

Copper, in a still air environment with $T_A = 25^\circ C$

*2 . The $R_{\theta JA}$ is the sum of the thermal impedance from junction to lead $R_{\theta JL}$ and lead to ambient.

KO3401

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =250 μA, V _{GS} =0V	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	μA
		V _{DS} =-24V, V _{GS} =0V, T _J =55°C			-5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-0.7	-1	-1.3	V
On state drain current	I _{D(ON)}	V _{GS} =-4.5V, V _{DS} =-5V	-25			A
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =4.2A		42	50	mΩ
		V _{GS} =-10V, I _D =4.2A T _J =125°C			75	
		V _{GS} =-4.5V, I _D =-4A		53	65	mΩ
		V _{GS} =-2.5V, I _D =-1A		80	120	mΩ
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-5A	7	11		S
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V		-0.75	-1	V
Maximum Body-Diode Continuous Current	I _S				-2.2	A
Pulsed Body-Diode Current *	I _{SM}				-30	A
Reverse Transfer Capacitance	C _{iss}			954		pF
Gate resistance	C _{oss}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		115		pF
Input Capacitance	C _{rss}			77		pF
Output Capacitance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		6		Ω
Total Gate Charge	Q _g			9.4		nC
Gate Source Charge	Q _{gs}	V _{GS} =-4.5V, V _{DS} =-15V, I _D =-4A		2		nC
Gate Drain Charge	Q _{gd}			3		nC
Turn-On Rise Time	t _{D(on)}			6.3		ns
Turn-Off DelayTime	t _r	V _{GS} =-10V, V _{DS} =-15V, R _L =3.6 Ω, R _{GEN} =6 Ω		3.2		ns
Turn-Off Fall Time	t _{D(off)}			38.2		ns
Turn-On DelayTime	t _f			12		ns
Body Diode Reverse Recovery Time	t _{rr}	I _F =-4A, di/dt=100A/μs		20.2		ns
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =-4A, di/dt=100A/μs		11.2		nC

* Repetitive rating, pulse width limited by junction temperature.

■ Marking

Marking	A1
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