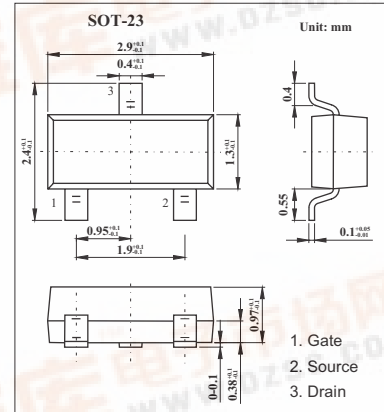
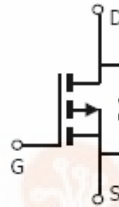


SMD Type Transistors

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	$V_{GS}$	$\pm 12$	V
Continuous Drain Current *1 $T_A=25^\circ C$	$I_D$	-4.2	A
$T_A=70^\circ C$		-3.5	
Pulsed Drain Current *2	$I_{DM}$	-30	
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  $1in^2$  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  $1in^2$  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	BVDSS	Id=250 μ A, VGS=0V	-30			V
Zero Gate Voltage Drain Current	IDSS	VDS=-24V, VGS=0V			-1	μ A
		VDS=-24V, VGS=0V, TJ=55°C			-5	
Gate-Body leakage current	IGSS	VDS=0V, VGS=±12V			±100	nA
Gate Threshold Voltage	VGS(th)	VDS=VGS Id=-250 μ A	-0.7	-1	-1.3	V
On state drain current	ID(ON)	VGS=-4.5V, VDS=-5V	-25			A
Static Drain-Source On-Resistance	RDS(ON)	VGS=-10V, Id=4.2A		42	50	m Ω
		VGS=-10V, Id=4.2A TJ=125°C			75	
		VGS=-4.5V, Id=-4A		53	65	m Ω
		VGS=-2.5V, Id=-1A		80	120	m Ω
Forward Transconductance	gFS	VDS=-5V, Id=-5A	7	11		S
Diode Forward Voltage	VSD	Is=-1A, VGS=0V		-0.75	-1	V
Maximum Body-Diode Continuous Current	Is				-2.2	A
Pulsed Body-Diode Current *	ISM				-30	A
Reverse Transfer Capacitance	Ciss			954		pF
Gate resistance	Coss	VGS=0V, VDS=-15V, f=1MHz		115		pF
Input Capacitance	Crss			77		pF
Output Capacitance	Rg	VGS=0V, VDS=0V, f=1MHz		6		Ω
Total Gate Charge	Qg			9.4		nC
Gate Source Charge	Qgs	VGS=-4.5V, VDS=-15V, Id=-4A		2		nC
Gate Drain Charge	Qgd			3		nC
Turn-On Rise Time	tD(on)			6.3		ns
Turn-Off DelayTime	tr			3.2		ns
Turn-Off Fall Time	tD(off)	VGS=-10V, VDS=-15V, RL=3.6 Ω, RGEN=6 Ω		38.2		ns
Turn-On DelayTime	tr			12		ns
Body Diode Reverse Recovery Time	trr	IF=-4A, di/dt=100A/μ s		20.2		ns
Body Diode Reverse Recovery Charge	Qrr	IF=-4A, di/dt=100A/μ s		11.2		nC

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

## ■ Marking

Marking	A1
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