LJ3401

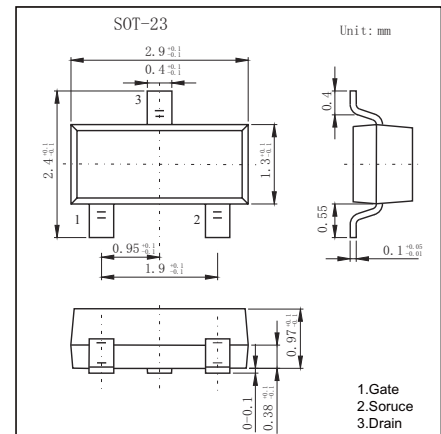## SOT-23 Plastic-Encapsulate MOSFETS

FEATURE

●High dense cell design for extremely low $R_{DS(ON)}$.

●Exceptional on-resistance and maximum DC current capability

●P-Channel Enhancement Mode Field Effect Transistor

MECHANICAL DATA

●Case style:SOT-23molded plastic

●Mounting position:any

SOT-23   Unit: mm

1.Gate
2.Soruce
3.Drain

$V_{(BR)DSS}$	RDSS(on) MAX	I_D
-30 V	65mΩ@-10V	-4.2A
	75mΩ@-4.5V	
	90mΩ@-2.5V	

MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	-4.2	A
Power Dissipation	P_D	350	mW
Thermal Resistance from Junction to Ambient (t<5s)	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS Ta=25 ℃ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250µA	-30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-24V,V_{GS} = 0V			-1	µA
Gate-source leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	nA
On characteristics						
Drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =-10V, I_D =-4.2A		50	65	mΩ
		V_{GS} =-4.5V, I_D =-4A		60	75	mΩ
		V_{GS} =-2.5V,I_D=-1A		75	90	mΩ
Forward tranconductance (note 1)	g_{FS}	V_{DS} =-5V, I_D =-5A	7			S
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250µA	-0.7	-0.9	-1.3	V
Dynamic characteristics (note 2)						
Input capacitance	C_{iss}	V_{DS} =-15V,V_{GS} =0V,f =1MHz		954		pF
Output capacitance	C_{oss}			115		pF
Reverse transfer capacitance	C_{rss}			77		pF
Switching characteristics (note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=-10V,V_{DS}=-15V, R_L=3.6Ω,R_{GEN}=6Ω			6.3	ns
Turn-on rise time	t_r				3.2	ns
Turn-off delay time	$t_{d(off)}$				38.2	ns
Turn-off fall Time	t_f				12	ns
Drain-source diode characteristics and maximum ratings						
Diode forward voltage (note 1)	V_{SD}	I_S=-1A,V_{GS}=0V			-1	V

Note :

1. Pulse Test : Pulse width≤300µs, duty cycle ≤2%.
2. These parameters have no way to verify.

RATINGS AND CHARACTERISTIC CURVES

Output Characteristics

$T_a=25℃$
Pulsed

$V_{GS}=-10V$

$V_{GS}=-4.5V$

$V_{GS}=-3.0V$

$V_{GS}=-2.5V$

$V_{GS}=-2.0V$

DRAIN CURRENT I_D (A)

DDAIN TO SOURCE VOLTAGE V_{DS} (V)

Transfer Characteristics

$T_a=25℃$
Pulsed

DRAIN CURRENT I_D (A)

GATE TO SOURCE VOLTAGE V_{GS} (V)

$R_{DS(ON)}$ — I_D

$T_a=25℃$
Pulsed

$V_{GS}=-2.5V$

$V_{GS}=-4.5V$

$V_{GS}=-10V$

ON-RESISTANCE $R_{DS(ON)}$ (mΩ)

DRAIN CURRENT I_D (A)

$R_{DS(ON)}$ — V_{GS}

$T_a=25℃$
Pulsed

$I_D=-2A$

ON-RESISTANCE $R_{DS(ON)}$ (mΩ)

GATE TO SOURCE VOLTAGE V_{GS} (V)

I_S — V_{SD}

$T_a=25℃$
Pulsed

SOURCE CURRENT I_S (A)

SOURCE TO DRAIN VOLTAGE V_{SD} (V)