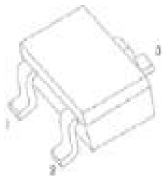
Leiditech

LM3019

N-Channel Enhancement Mode Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
50 V	3Ω@10V	200mA
	4Ω@5V	

SOT-523



1. GATE
2. SOURCE
3. DRAIN

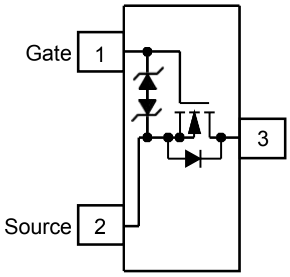
FEATURE

- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

APPLICATION

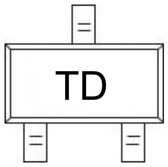
- Load Switch for Portable Devices
- DC/DC Converter

Equivalent Circuit



(Top View)

MARKING



MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source voltage	50	V
V_{GS}	Gate-Source voltage	20	V
I_D	Drain Current	200	mA
P_D	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

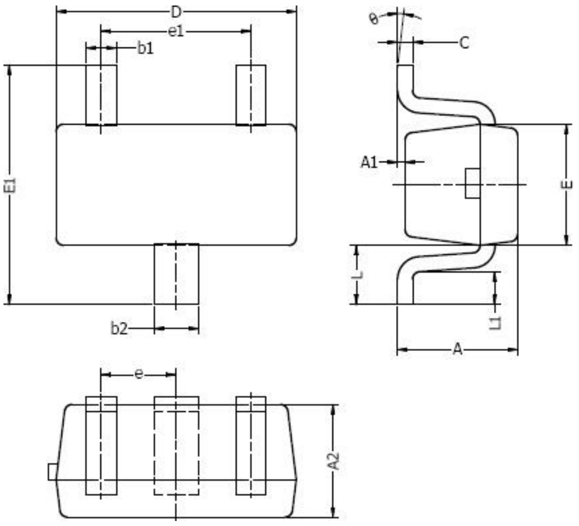
T_a=25 ℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0 V, I_D=250 μA	50			V
Gate-Threshold Voltage	$V_{th(GS)}$	V_{DS}=V_{GS}, I_D=250 μA	0.7	1.0	1.5	
Gate-body Leakage	I_{GSS}	V_{DS}=0 V, V_{GS}=±20 V			±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60 V, V_{GS}=0 V			±30	μA
On-state Drain Current	$I_{D(ON)}$	V_{GS}=10 V, V_{DS}=7 V	200			mA
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10 V, I_D=500mA		2	3	Ω
		V_{GS}=5 V, I_D=50mA		3	4	
Forward Trans conductance	g_{fs}	V_{DS}=10 V, I_D=200mA	80			ms
Drain-source on-voltage	$V_{DS(on)}$	V_{GS}=10V, I_D=500mA			3.75	V
		V_{GS}=5V, I_D=50mA			0.375	V
Diode Forward Voltage	V_{SD}	I_S=115mA, V_{GS}=0 V	0.55		1.2	V
Input Capacitance	C_{iss}	V_{DS}=25V, V_{GS}=0V, f=1MHz			50	pF
Output Capacitance	C_{oss}				25	
Reverse Transfer Capacitance	C_{rss}				5	

SWITCHING TIME

Turn-on Time	$t_{d(on)}$	V_{DD}=25 V, R_L=50 Ω I_D=500mA,V_{GEN}=10 V R_G=25 Ω			20	ns
Turn-off Time	$t_{d(off)}$				40	

SOT-523 Package Outline



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
θ	0°	8°	0°	8°

NOTES:
1. Above package outline conforms to JEITA EAIJ ED-7500A SC-75A.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

Typical Soldering Pattern: