

ZLM3019AH规格书 V1.0

N-Channel Trench Power MOSFET

ZLW-QW-EN-G147



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Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	$3\Omega@10V$	100mA
	$4\Omega@4.5V$	

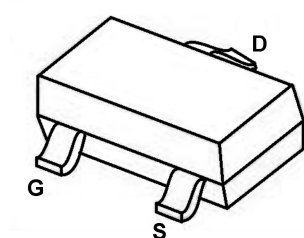
Feature

- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for Portable equipment
- Easily designed drive circuits
- Easy to parallel

Application

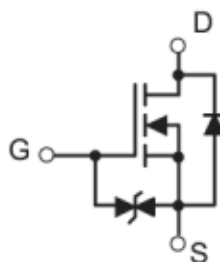
- Interfacing , Switching

Package:



SOT-523

Circuit diagram



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	100	mA
Power Dissipation	P_D	0.15	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

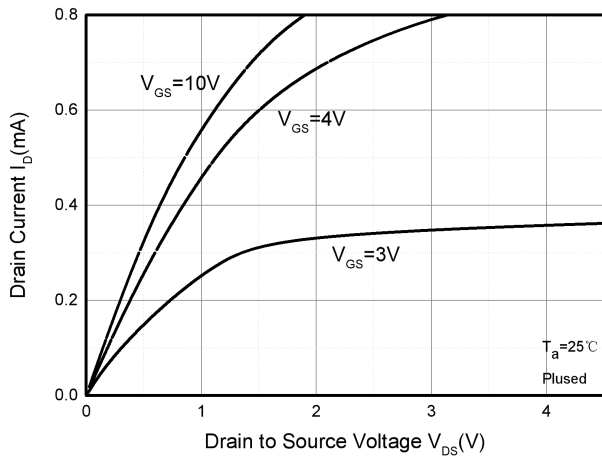
Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static 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} =48V,V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±5	μA
Gate threshold voltage ¹⁾	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	0.8	1	1.45	V
Drain-source on-resistance ¹⁾	R _{DS(on)}	V _{GS} =10V, I _D =500mA		1.5	3	Ω
		V _{GS} =4.5V, I _D =200mA		1.8	4	
Dynamic characteristics ²⁾						
Input Capacitance	C _{iss}	V _{DS} =25V,V _{GS} =0V,f=1MHz		27		pF
Output Capacitance	C _{oss}			13		
Reverse Transfer Capacitance	C _{rss}			6		
Switching Characteristics ¹⁾²⁾						
Turn-on delay time	t _{d(on)}	V _{DD} =30V,I _D =0.29A, V _{GS} =10V,R _G =6Ω			5	nS
Rise time	tr				18	
Turn-off delay time	t _{d(off)}				36	
Fall tim	tf				14	
Source-Drain Diode characteristics						
Diode Forward voltage	V _{SD}	V _{GS} =0V, I _S =500mA	0.5		1.4	V

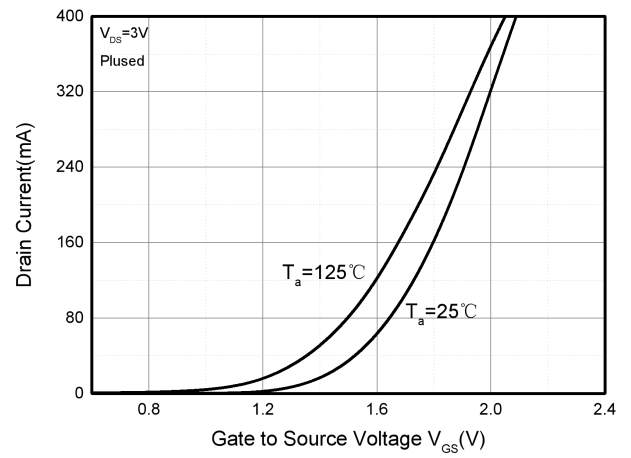
Notes:

- 1) Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
- 2) These parameters have no way to verify.

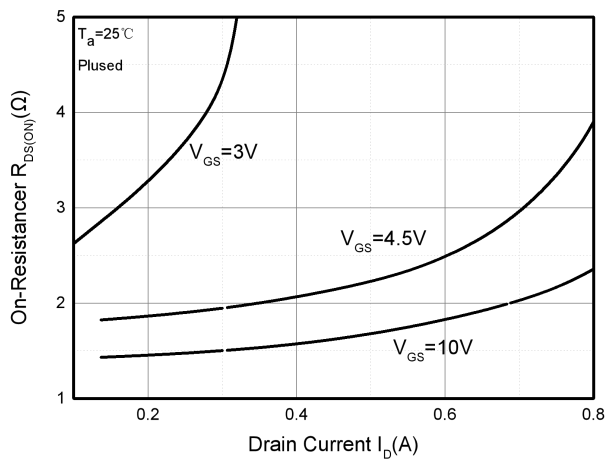
Typical Characteristics



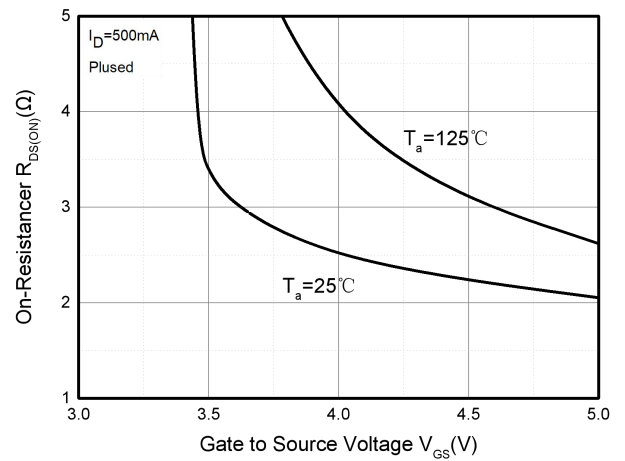
Output Characteristics



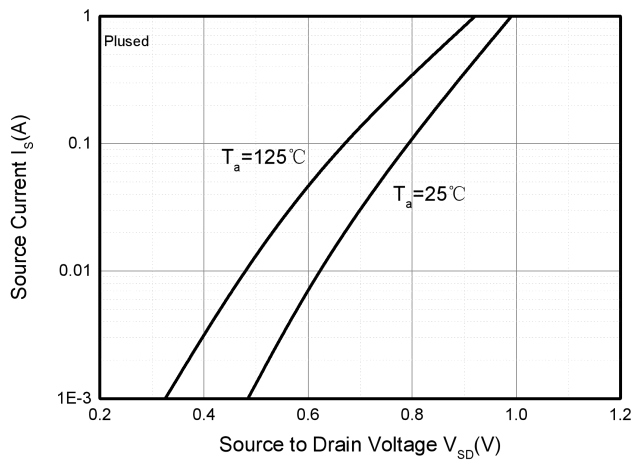
Transfer Characteristics



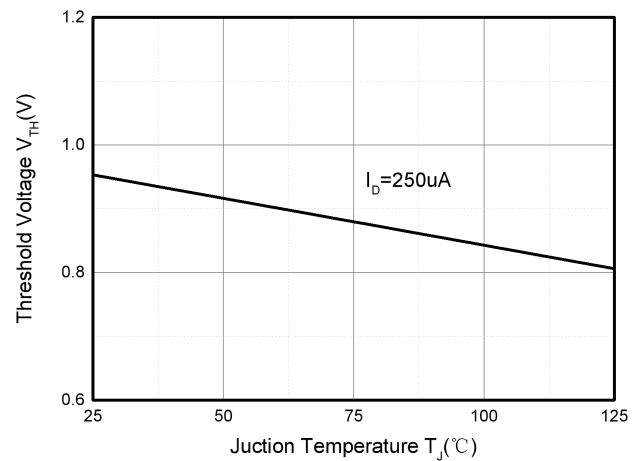
RDS(ON)— I_D



RDS(ON)— V_{GS}

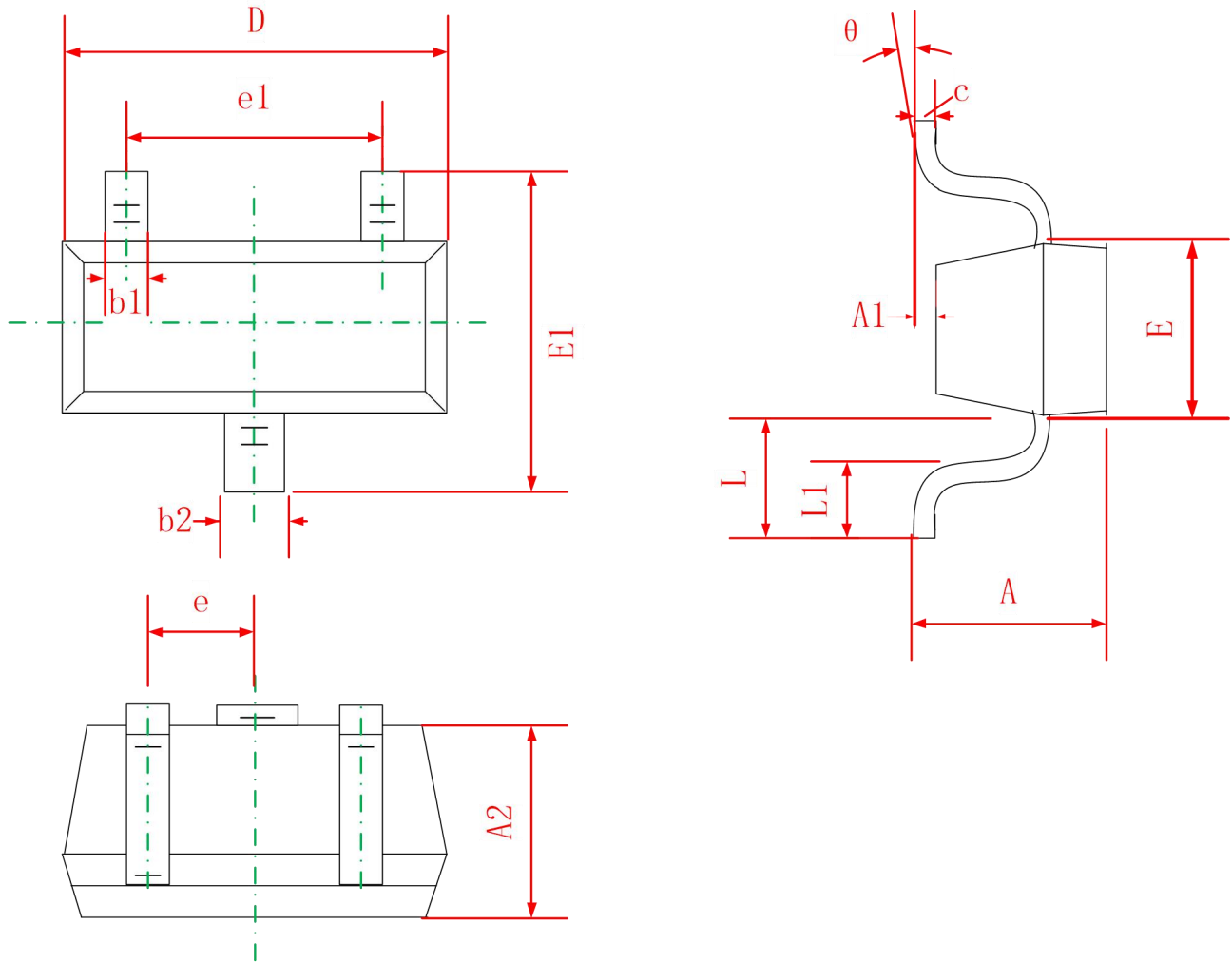


I_S — V_{SD}



Threshold Voltage

SOT-523 Package Information



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°