ZLM0300AC规格书 V1.1

N-Channel Trench Power MOSFET

ZLW-QW-EN-G188

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N-Channel Enhancement Mode Field Effect Transistor

- **Features**

V_{DS} = 30V

$R_{DS(ON)}$, @V_{GS}=10V, I_{DS}=1A , TYP 29mΩ

$R_{DS(ON)}$, @V_{GS}=4.5V, I_{DS}=1A , TYP 31mΩ

$R_{DS(ON)}$, @V_{GS}=2.5V, I_{DS}=1A , TYP 34mΩ

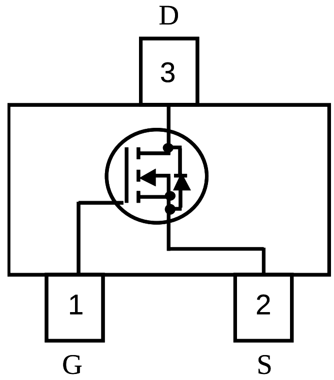
Fast switching speed

Low threshold voltage (0.8V) makes this device Ideal for portable equipment

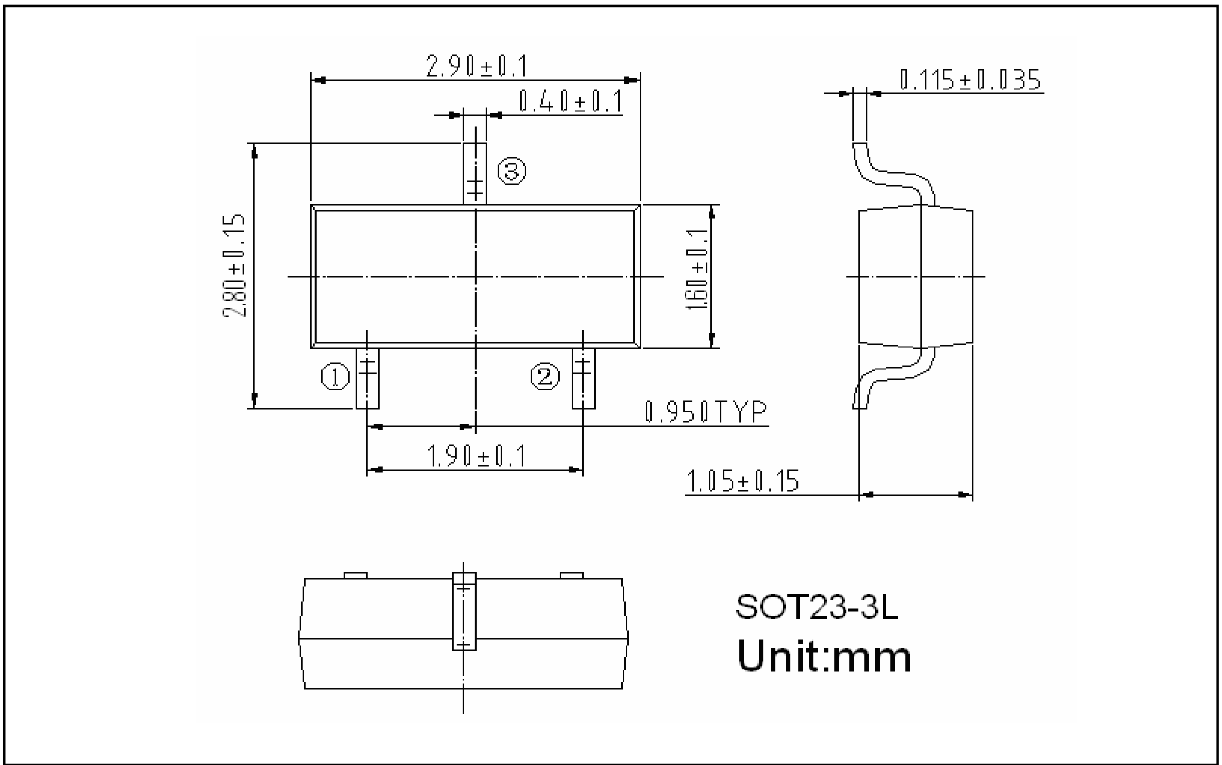
- **General Description**

The ZLM0300AC uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a load switch or in PWM applications.

- **Pin Configuration**



- **Package Information**



Absolute Maximum Ratings @ T_A = 25°C unless otherwise specified

Parameter	Symbol	N-channel	Unit
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	±12	V
Continuous Drain Current (Note 1)	I_D	5.5	A
Plused Drain Current (Note 2)	I_{DM}	25	A
Total Power Dissipation (Note 1)	P_D	1.2	W
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 250μA	30		--	V
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D =250μA	0.6	0.75	1.1	V
Gate–Body Leakage Current	I_{GSS}	V_{GS} = ± 12 V, V_{DS} = 0 V	--	--	±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 24 V, V_{GS} = 0 V	--	--	1	μA
Drain–Source On–State Resistance	$R_{DS(ON)}$	V_{GS} = 10 V, I_D = 1A	--	29	31	mΩ
		V_{GS} = 4.5 V, I_D= 1A		31	34	
		V_{GS} = 2.5 V, I_D = 1A		34	42	
Forward Transconductance	G_{FS}	V_{DS} = 5 V, I_D = 5 A	10	15	--	S
Diode Forward Voltage	V_{SD}	V_{GS} = 0 V, I_S = 1 A	--	--	1.5	V
Input Capacitance	C_{ISS}	V_{DS} = 15 V, V_{GS} = 0 V, f = 1.0 MHz	--	697	--	pF
Output Capacitance	C_{OSS}		--	259	--	
Reverse Transfer Capacitance	C_{RSS}		--	308	--	
Turn–On Delay Time	$T_{D(ON)}$	V_{DS} = 15 V, R_L = 2.3Ω, V_{GS} = 10V, R_{GEN}=3Ω	--	--	18	ns
Turn–Off Delay Tim	$T_{D(OFF)}$		--	--	70	

Note :

1. DUT is mounted on a 1in ^{2} FR-4 board with 2oz. Copper in a still air environment at 25°C,
2. Repetitive rating, pulse width limited by junction temperature.

- **Typical Performance Characteristics**

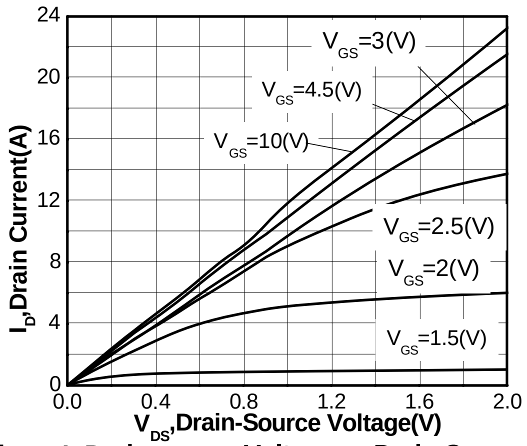


Figure1. Drain-source Voltage vs Drain Current

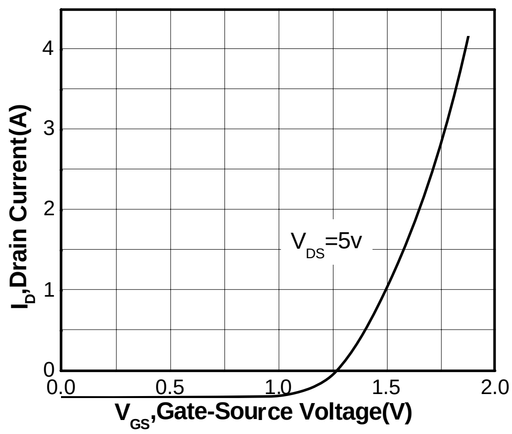


Figure2. Gate-Source Voltage vs Drain Current

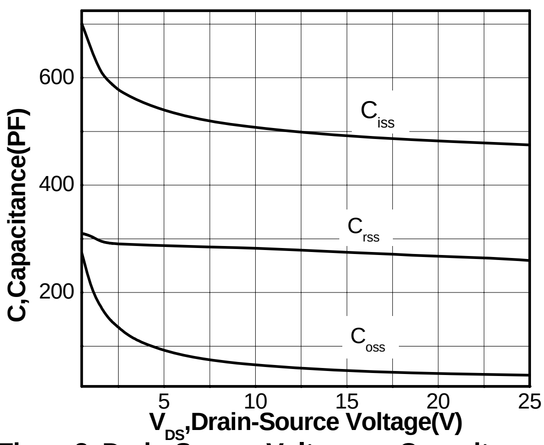


Figure3. Drain-Source Voltage vs Capacitance

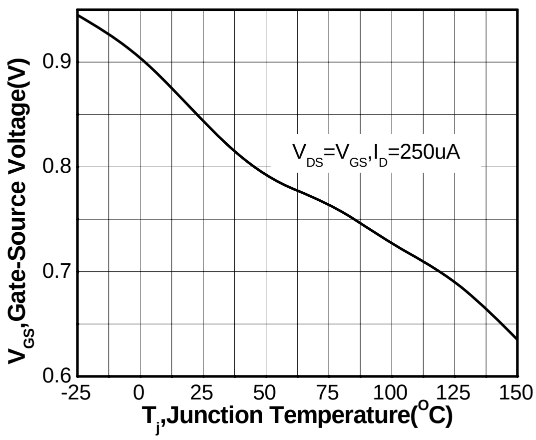


Figure4. Junction Temperature vs Gate-Source Voltage

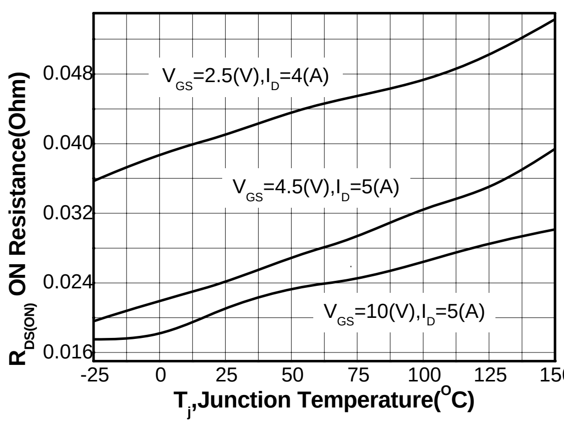


Figure5. Junction Temperature vs ON Resistance

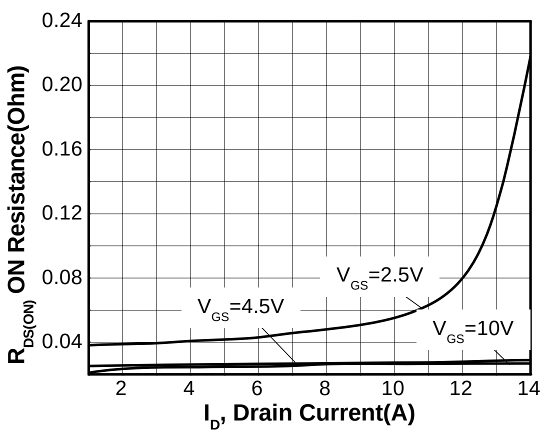


Figure6. Drain Current vs ON Resistance

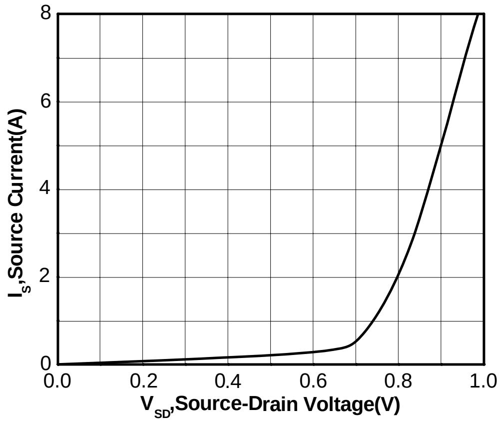


Figure7 Source-Drain Voltage vs Source Current

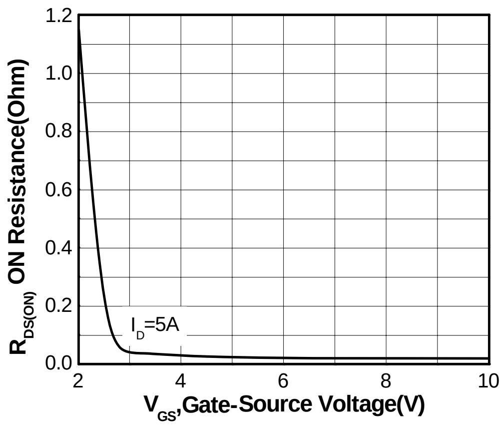


Figure8. Gate-Source Voltage vs ON Resistance