Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-16V	18mΩ@-4.5V	-7A
	26mΩ@-2.5V	

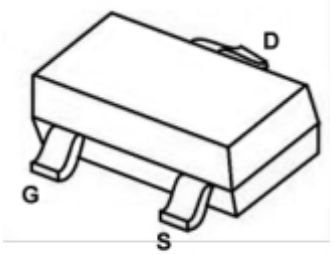
Feature

- TrenchFET Power MOSFET
- Excellent RDS(on) and Low Gate Charge

Applications

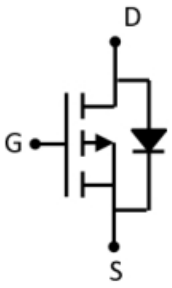
- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

Package

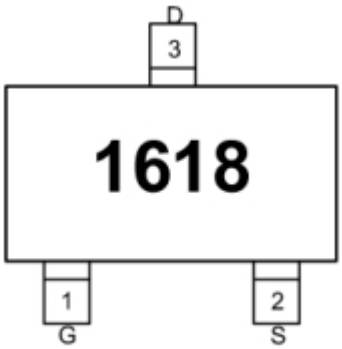


SOT-23-3L

Circuit diagram



Marking



1618: **Product code**

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-16	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	-7	A
Pulsed Drain Current (t=300μs)	I_{DM}	-28	A
Power Dissipation	P_D	1.8	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	69	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	$T_{STG,,}$	-55~ +150	℃

Electrical characteristics

(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-16	-18		V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-16V, V_{GS} = 0V			-1	uA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±0.1	uA
Gate threshold voltage (1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.45	-0.65	-1	V
Drain-source on-resistance (1)	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-5A		18	26	mΩ
		V_{GS} =-2.5V, I_D =-4.3A		26	38	
Forward tranconductance (1)	g_{FS}	VDS =-5V, ID =-5A	10			S
Dynamic Characteristics						
Input capacitance	C_{iss}	V_{DS}=-6V, V_{GS}=0V, f=1MHz		1275		pF
Output capacitance	C_{oss}			255		
Reverse transfer capacitance	C_{rss}			236		
Gate resistance	R_g	f =1MHz	1.9		19	Ω
Total gate charge	Q_g	V_{DS}=-6V , V_{GS}=-4.5V , I_D=-5A		14	21	nC
Gate-source charge	Q_{gs}			2.3		
Gate-drain charge	Q_{gd}			3.6		
Turn-on Delay Time	$T_{d(on)}$	V_{DD}=-6V, V_{GEN}=-4.5V, I_D =-4A, R_L =6Ω , R_{GEN} =1Ω		26	40	nS
Turn-on Rise Time	T_r			24	40	
Turn-Off Delay Time	$T_{d(off)}$			45	70	
Turn-Off Fall Time	t_f			20	35	
Source-Drain Diode Characteristics						
Diode forward current	I_S	T_C=25℃			-7	A
Diode pulsed forward current	I_{SM}				-28	A
Diode Forward voltage (1)	V_{DS}	V_{GS} =0V, I_S=-1A			-1.2	V
Diode reverse recovery time (2)	t_{rr}	I_F=-4A, dI/dt=100A/μs		24	48	ns
Diode reverse recovery charge	Qrr			8	16	nC

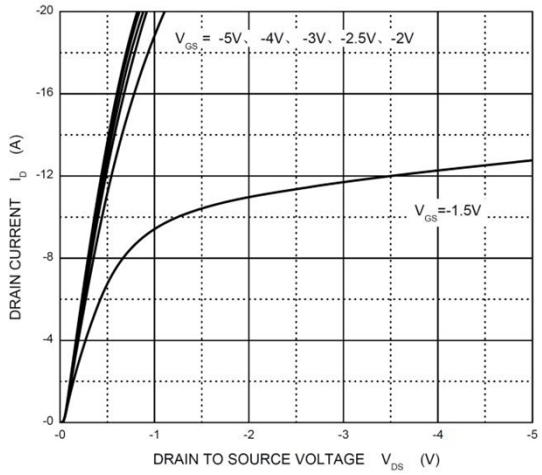
Notes :

1. Pulse test; pulse width≤300μs, duty cycle≤2%.

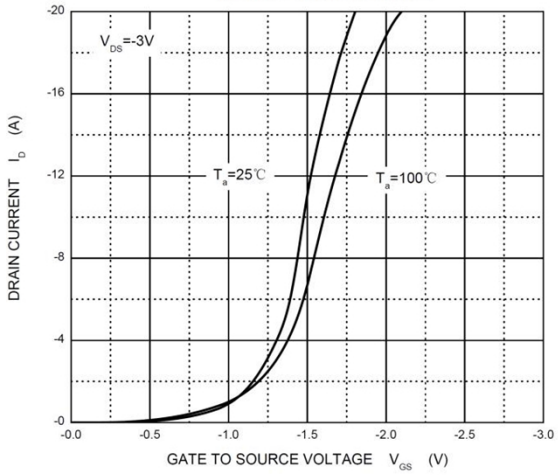
2. Guaranteed by design, not subject to production testing.

Typical Characteristics

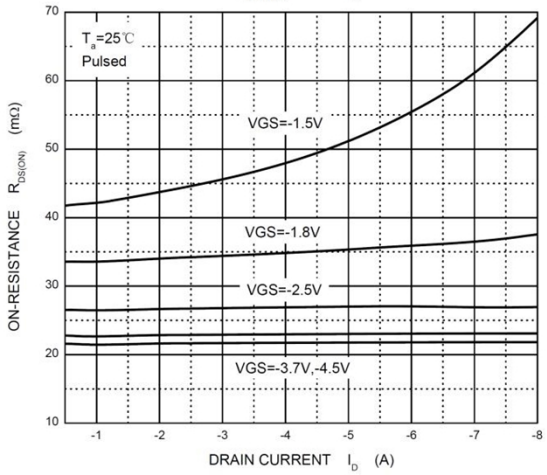
Output Characteristics



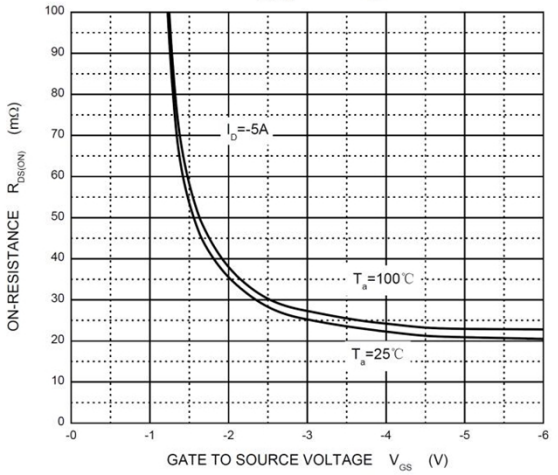
Transfer Characteristics



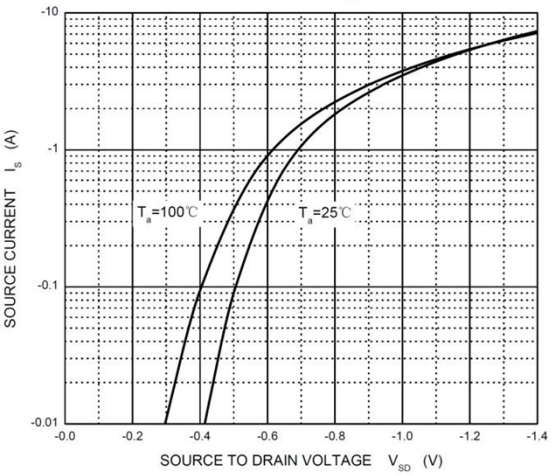
$R_{DS(ON)}$ — I_D



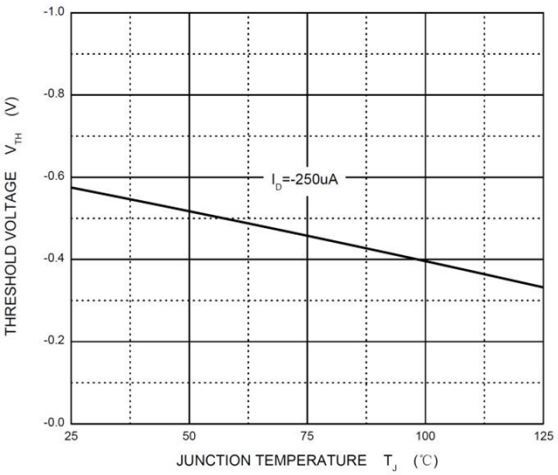
$R_{DS(ON)}$ — V_{GS}



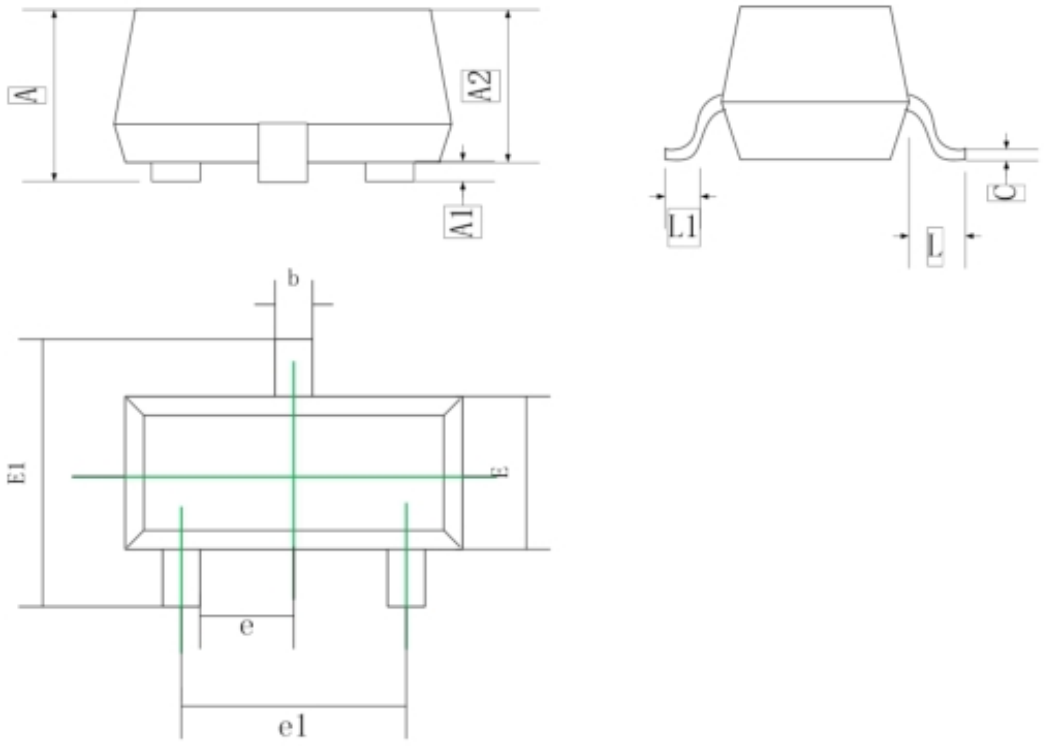
I_S — V_{SD}



Threshold Voltage



DFN2*2-6L-J Package Information



Symbol	Dimensions in millimeters	
	Min.	Max.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E	1.500	1.700
E1	2.650	2.950
e	0.950 Typ.	
e1	1.800	2.000
L	0.300	0.600
θ	0°	8°