JS-2SK3018W

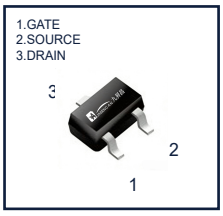
SOT-323 30V Plastic-EncapsulateMOSFETS

Description

The 2SK3018W uses advanced trench technologyto provide excellent Rpsrom, low gate charge andoperation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application.

General Features

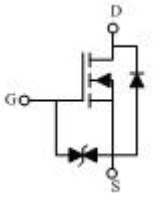
- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for portable equipment
- Easily designed drive circuits
- Easy to parallel



SOT-323

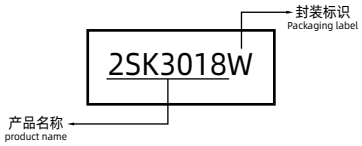
Applications

- Battery protection
- Load switch
- Uninterruptible power supply



Equivalent Circuit

Ordering information

Product ID	Pack	Naming rule	Marking	Qty(PCS)
2SK3018W	SOT-323		KN	3000

Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Rating	Units
V_{DSS}	Drain-Source voltage	30	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Drain Current-Continuous	0.1	A
P_D	Power Dissipation	0.2	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	℃/W

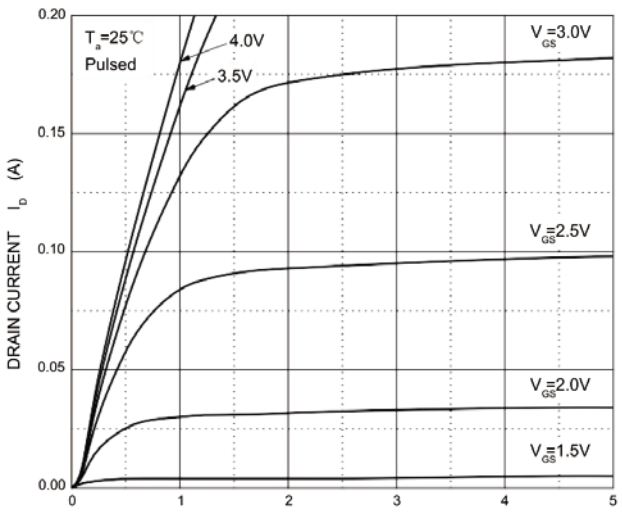
Electrical Characteristics (T_A=25℃, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=10μA	30	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=30V,V_{GS}= 0V	---	---	0.2	μA
I_{GSS}	Gate -Source leakage current	V_{GS}=±20V, V_{DS}=0V	---	---	±2	μA
$V_{GS(th)}$	GateThreshold Voltage	V_{DS}=3V, I_D=100μA	0.8	---	1.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}=4V, I_D=10mA	---	---	8	Ω
		V_{GS}=2.5V, I_D=1mA	---	---	13	
gfs	Forward Transconductance	V_{DS}=3V, I_D=10mA	20	---	---	mS
Dynamic Characteristics*						
C_{iss}	Input Capacitance	V_{DS}=5V,V_{GS}=0V,f=1MHz	---	13	---	pF
C_{oss}	Output Capacitance		---	9	---	
C_{rss}	Reverse Transfer Capacitance		---	4	---	
Switching Characteristics*						
$T_{d(on)}$	Turn-On Delay Time	V_{GS}=5V, V_{DD}=5V, I_D=10mA, R_g=10Ω, R_L=500Ω	---	15	---	ns
T_r	Rise Time		---	35	---	
$T_{d(off)}$	Turn-Off Delay Time		---	80	---	
T_f	Fall Time		---	80	---	

*These parameters have no way to verify

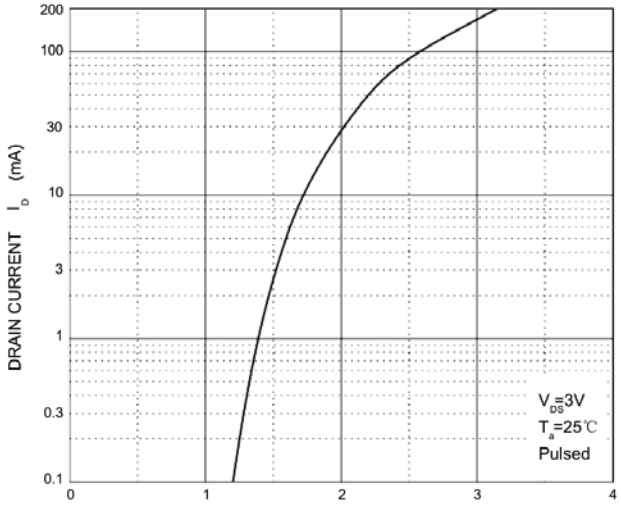
Typical Characteristics

Output Characteristics



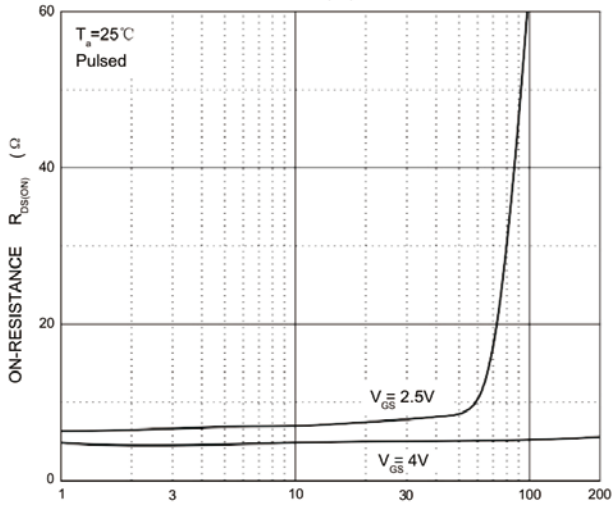
DRAIN TO SOURCE VOLTAGE VDS(V)

Transfer Characteristics



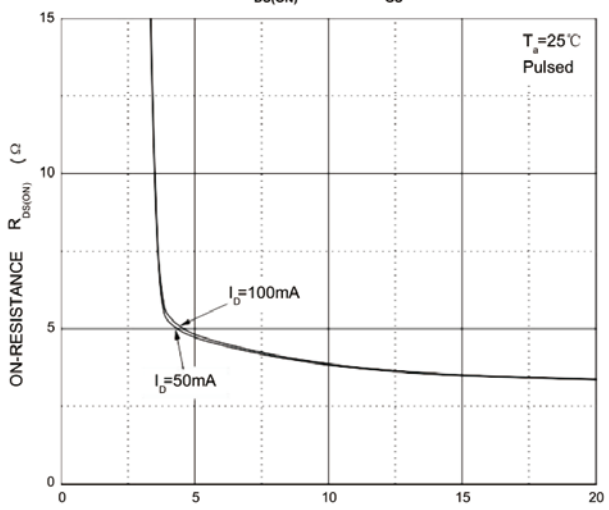
GATE TO SOURCE VOLTAGE VGS(V)

R DS(ON) —— I D



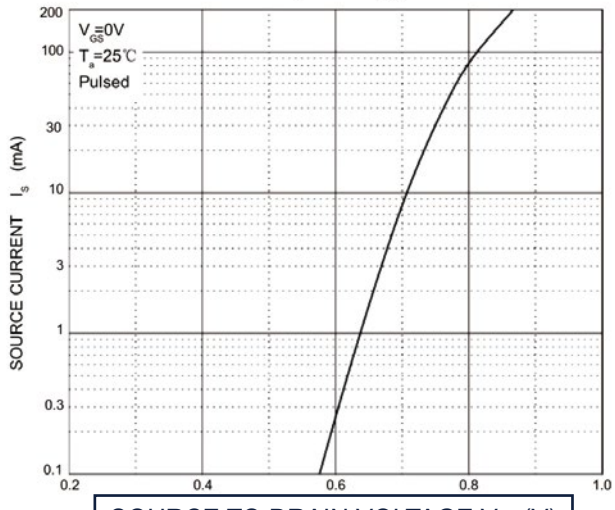
DRAIN CURRENT ID(A)

R DS(ON) —— V GS



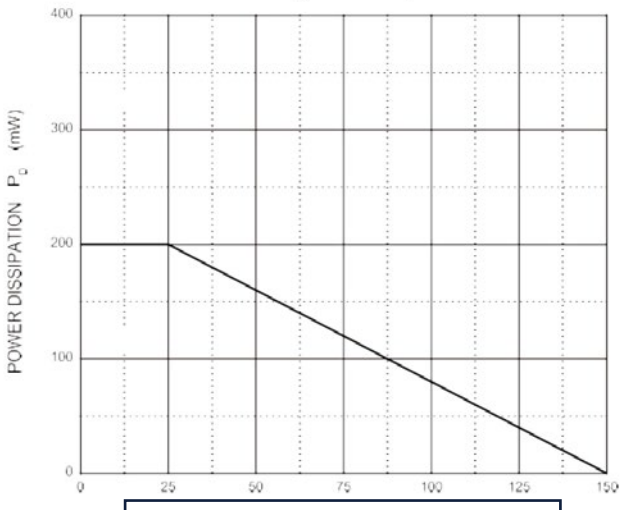
GATE TO SOURCE VOLTAGE VGS(V)

I S —— V SD



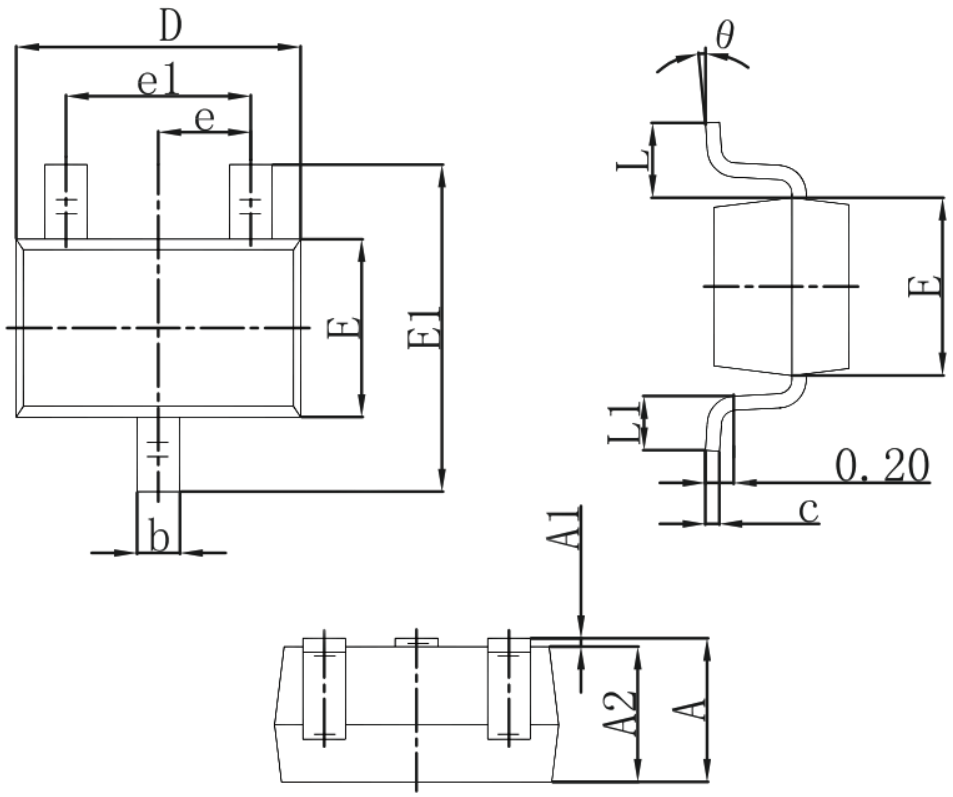
SOURCE TO DRAIN VOLTAGE VSD(V)

P D —— T a



JUNCTION TEMPERATURE TJ(℃)

SOT-323 Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	1.350	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°