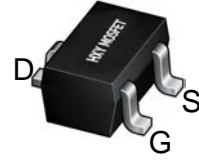




Description

The 2SK3018W uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application.



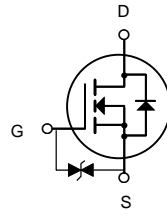
SOT-323

General Features

$V_{DS} = 30V$ $I_D = 0.1A$

$R_{DS(ON)} < 2.2\Omega @ V_{GS}=10V$

ESD Rating: HBM $\geq 2000V$



N-Channel MOSFET

Application

Battery protection

Load switch

Uninterruptible power supply

Package Marking and Ordering Information

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

Absolute Maximum Ratings ($T_C=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Limit	Unit	
V_{DS}	Drain-Source Voltage	30	V	
V_{GS}	Gate-Source Voltage	± 20	V	
I_D	Continuous Drain Current ($T_J = 150^\circ\text{C}$)	$T_A = 25^\circ\text{C}$	0.1	A
		$T_A = 100^\circ\text{C}$	0.07	
I_{DM}	Drain Current-Pulsed (Note 1)	0.65	A	
P_D	Maximum Power Dissipation	0.35	W	
T_J, T_{STG}	Operating Junction and Storage Temperature Range	-55 To 150	$^\circ\text{C}$	
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient (Note 2)	200	$^\circ\text{C/W}$	



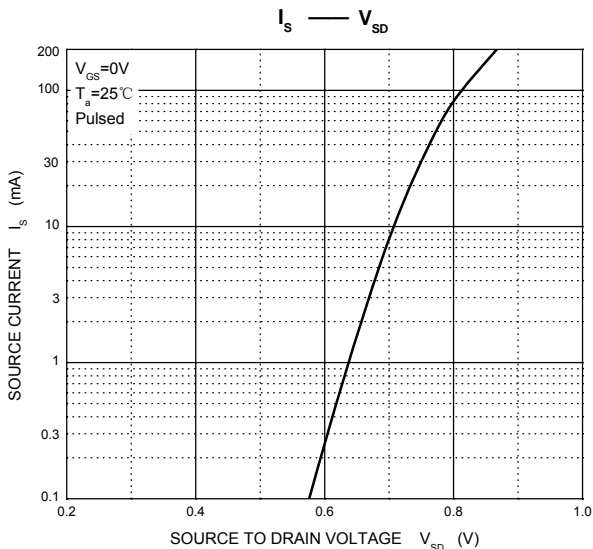
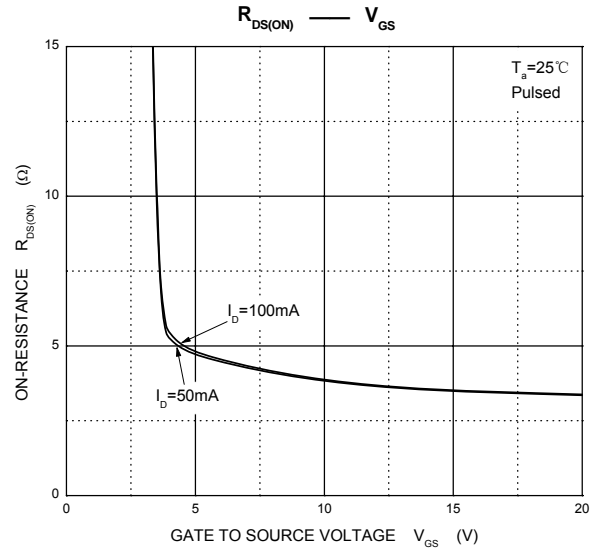
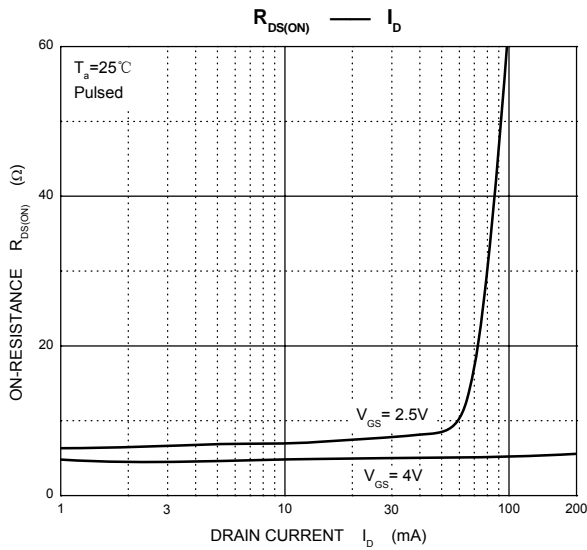
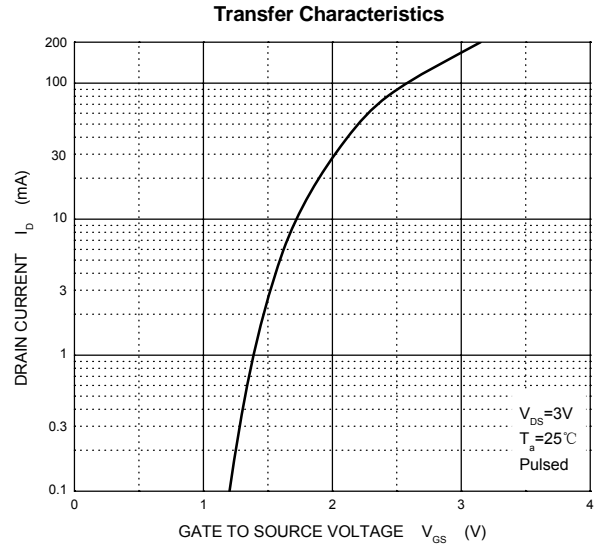
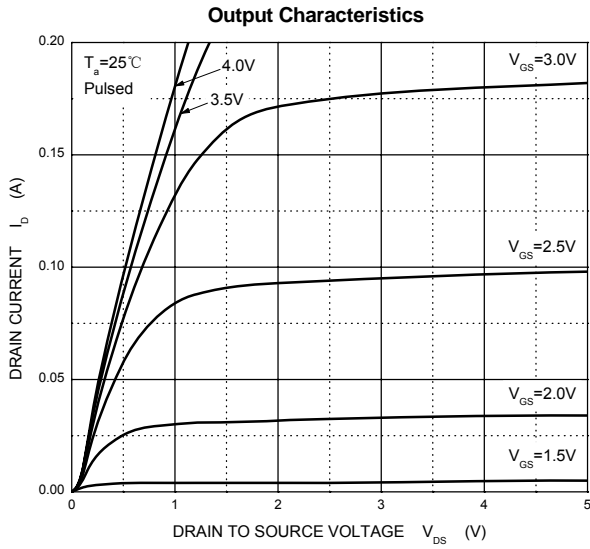
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units	
Off Characteristics							
Drain-Source Breakdown Voltage	V_{DS}	$V_{GS} = 0V, I_D = 10\mu A$	30			V	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			0.2	μA	
Gate –Source leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 2	μA	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = 3V, I_D = 100\mu A$	0.8		1.5	V	
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 10mA$		1.5	2.2	Ω	
		$V_{GS} = 4.5V, I_D = 1mA$		2	3	Ω	
Forward Transconductance	g_{FS}	$V_{DS} = 3V, I_D = 10mA$	20			mS	
Dynamic Characteristics*							
Input Capacitance	C_{iss}	$V_{DS} = 5V, V_{GS} = 0V, f = 1MHz$		13		pF	
Output Capacitance	C_{oss}				9		pF
Reverse Transfer Capacitance	C_{rss}				4		pF
Switching Characteristics*							
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 5V, V_{DD} = 5V,$ $I_D = 10mA, R_g = 10\Omega, R_L = 500\Omega,$		15		ns	
Rise Time	t_r				35		ns
Turn-Off Delay Time	$t_{d(off)}$				80		ns
Fall Time	t_f				80		ns

* These parameters have no way to verify.

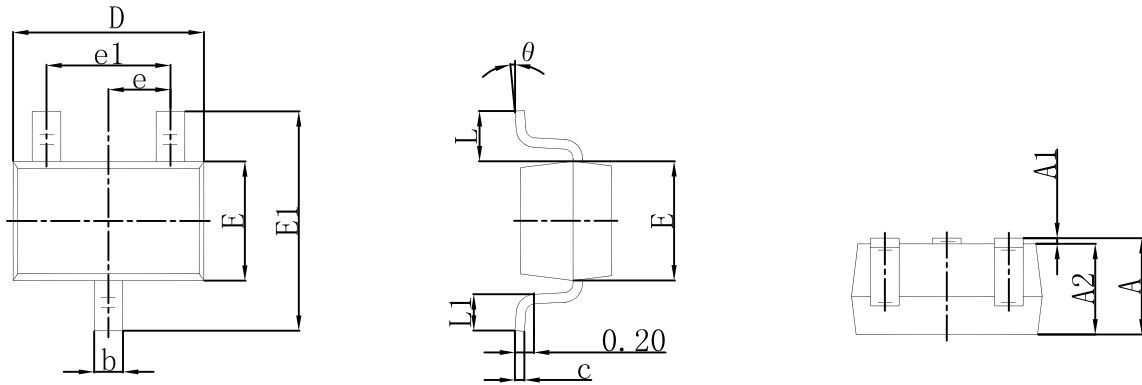


Typical Characteristics





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	2.150	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°



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