AS3018EW

N-Channel SMD MOSFET ESD Protection

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	3Ω@10V	0.1A
	4Ω@4.5V	

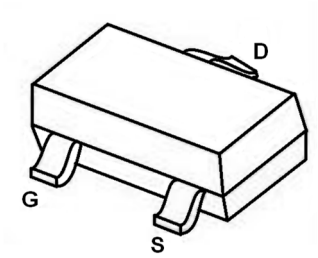
Feature

- High density cell design for ultra low on-resistance
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected

Application

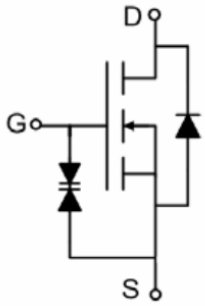
- Interfacing , Switching

Package

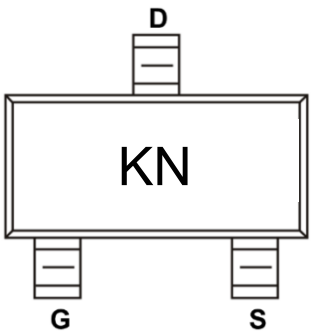


SOT-323

Circuit diagram



Marking



Absolute maximum ratings (Ta=25℃ 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	0.1	A
Power Dissipation	P_D	0.2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

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

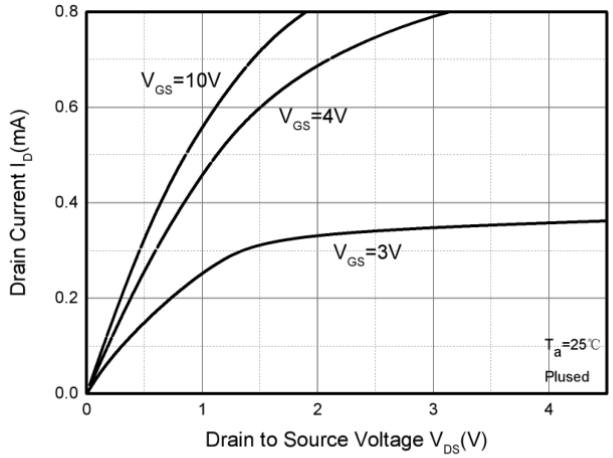
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =24V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±10	μA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.8		1.45	V
Drain-source on-resistance[1)]	$R_{DS(on)}$	V_{GS} =10V, I_D =0.5A		1.5	3	Ω
		V_{GS} =4.5V, I_D =0.2A		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		
Turn-on delay time	$t_{d(on)}$	V_{DD}=30V, V_{GS} =10V, I_D =0.29A R_{GEN}=6Ω			5	nS
Turn-on rise time	t_r				18	
Turn-off delay time	$t_{d(off)}$				36	
Turn-off fall time	t_f				14	
Source-Drain Diode characteristics						
Diode Forward voltage	V_{DS}	V_{GS} =0V, I_S=0.5A			1.4	V

Notes:

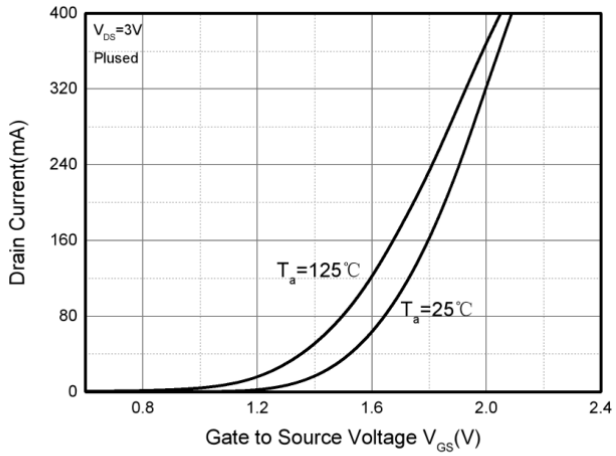
1) Pulse Test: Pulse Width < 300μs, Duty Cycle ≤2%.

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

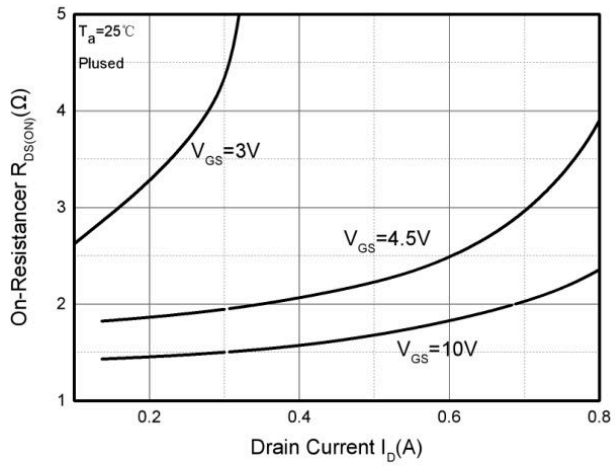
Typical Characteristics



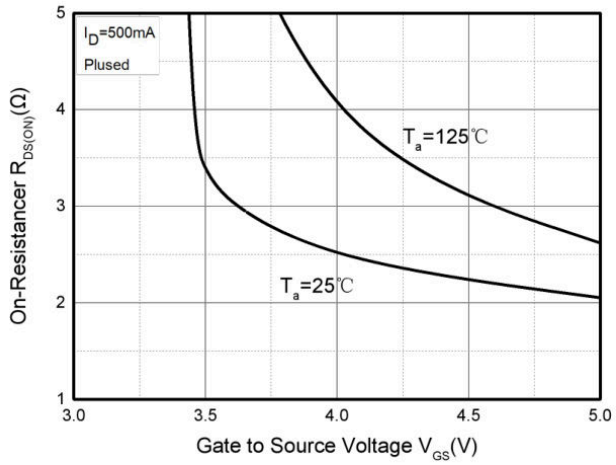
Output Characteristics



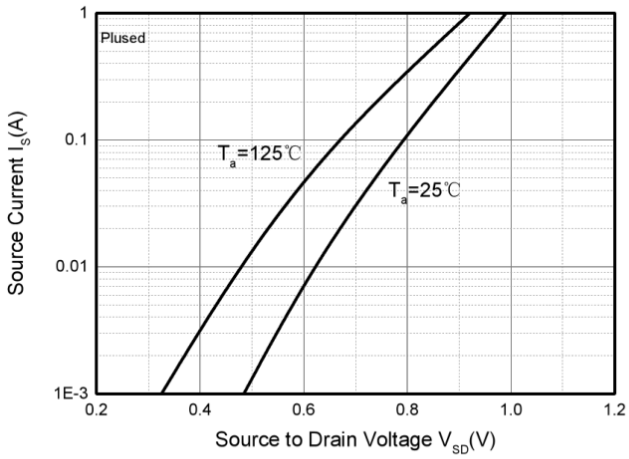
Transfer Characteristics



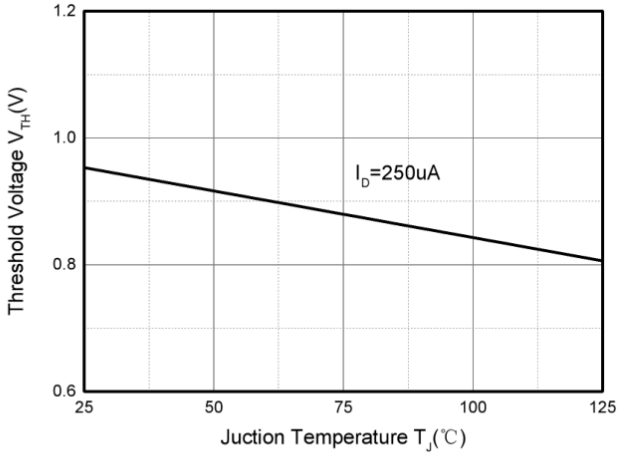
RDS(ON)——ID



RDS(ON)——VGS

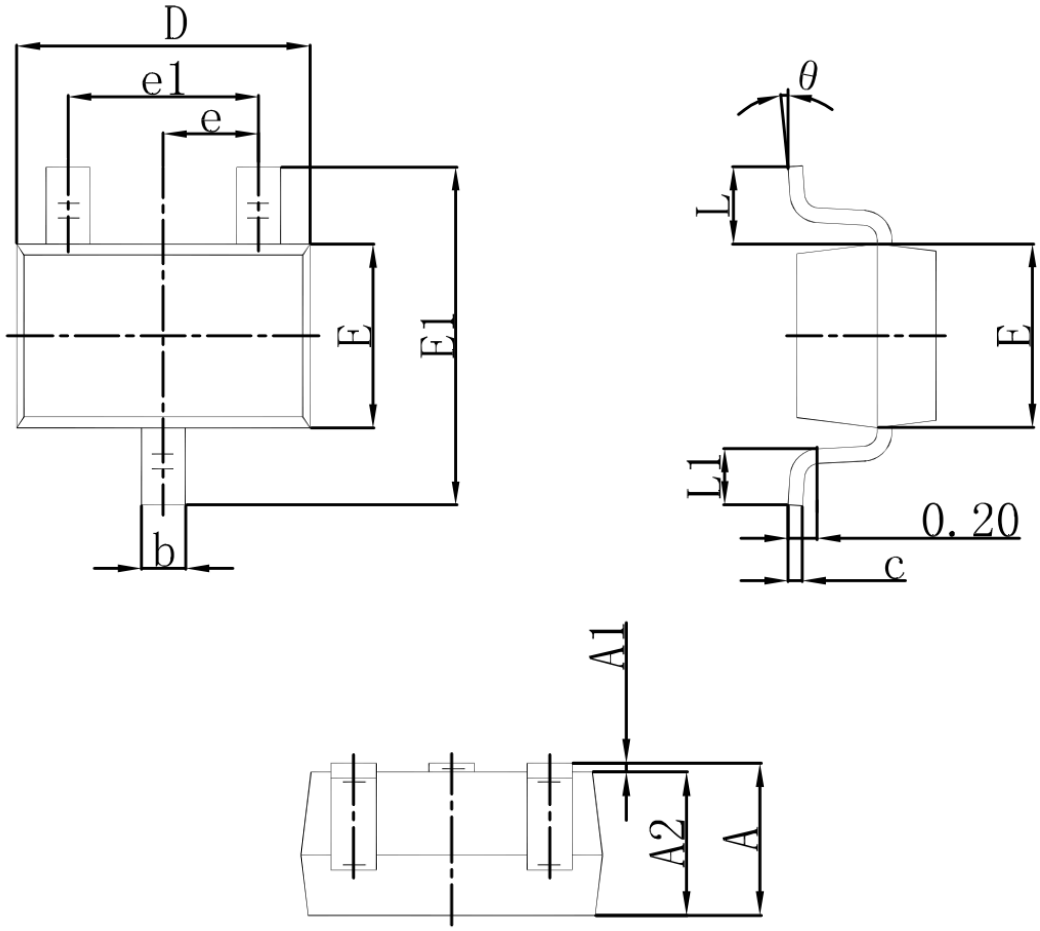


IS——VSD



Threshold Voltage

SOT-323 Package Information



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°