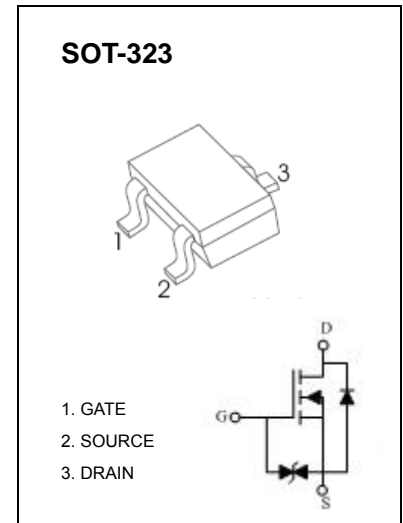


## Features

- High-Side Switching
- Low On-Resistance
- Low Threshold
- Fast Switching Speed
- SOT-323 package
- RoHS compliant

## Applications

- Drivers: Relays, Solenoids, Lamps, Hammers, Displays, Memories
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers



## Maximum Ratings

( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source voltage	$V_{DSS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	
Drain Current-Continuous	$I_D$	0.75	A
Drain Current -Pulsed(note1)	$I_{DM}$	3	
Power Dissipation (note 2)	$P_D$	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$
Storage Temperature	$T_j$	150	$^{\circ}\text{C}$
Junction Temperature	$T_{stg}$	-55 ~ +150	

## Electrical Characteristics

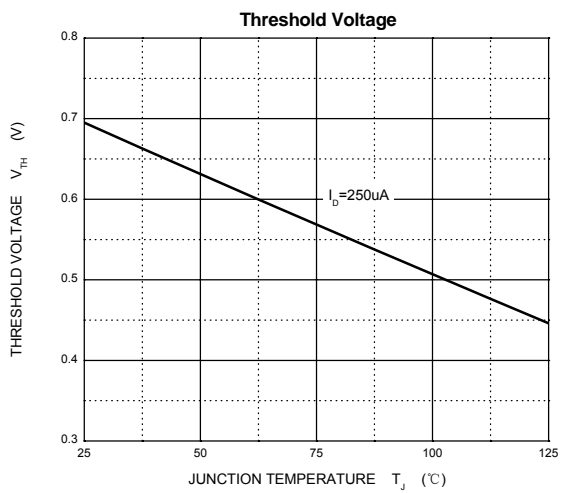
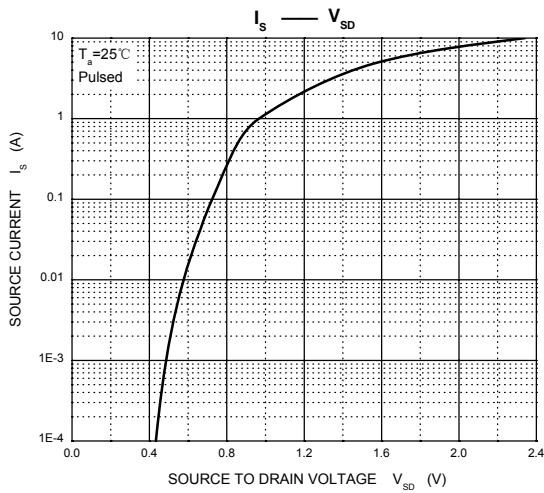
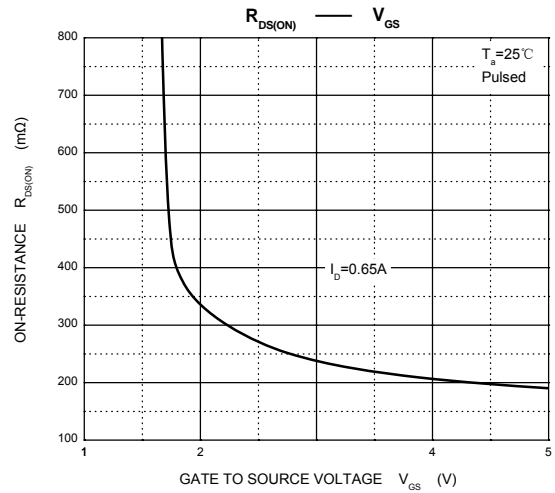
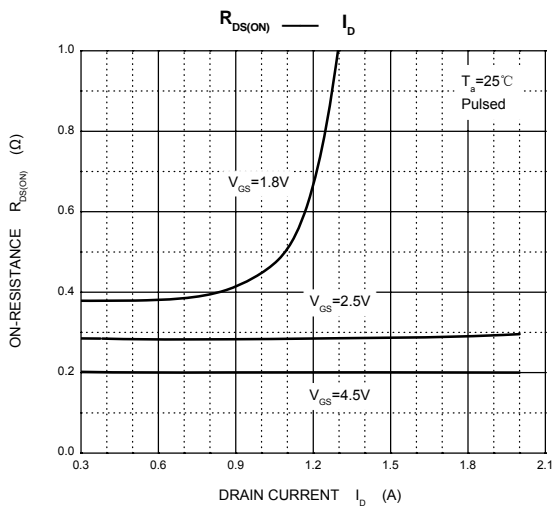
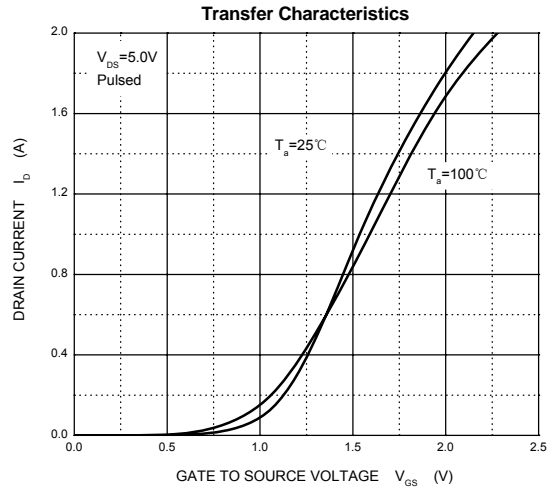
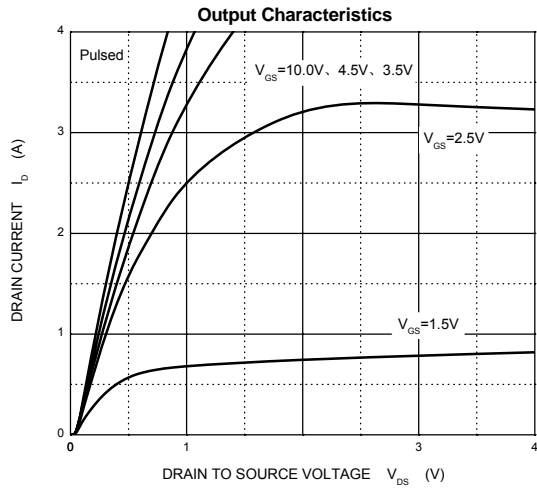
(T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>On/Off States</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	20			V
Gate-Threshold Voltage(note 3)	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	0.35		1	
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> = 0V, V <sub>GS</sub> = ±12V			±50	μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 20V, V <sub>GS</sub> = 0V			1	μA
Drain-Source On-State Resistance(note 3)	R <sub>DS(on)</sub>	V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 650mA			380	mΩ
		V <sub>GS</sub> = 2.5V, I <sub>D</sub> = 550mA			450	
		V <sub>GS</sub> = 1.8V, I <sub>D</sub> = 450mA			800	
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> = 10V, I <sub>D</sub> = 800mA	1			S
<b>Dynamic Characteristics(note 4)</b>						
Input Capacitance	C <sub>ISS</sub>	V <sub>DS</sub> = 16V, V <sub>GS</sub> = 0V, f = 1MHz			120	pF
Output Capacitance	C <sub>OSS</sub>				20	
Reverse Transfer Capacitance	C <sub>RSS</sub>				15	
<b>Switching Times (note 4)</b>						
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = 10V, I <sub>D</sub> = 500mA, V <sub>GS</sub> = 4.5V, R <sub>G</sub> = 10Ω		6.7		ns
Rise Time	t <sub>r</sub>			4.8		
Turn-Off Delay Time	t <sub>d(off)</sub>			17.3		
Fall Time	t <sub>f</sub>			7.4		
<b>Drain-Source Diode Characteristics</b>						
Drain-Source Diode Forward Voltage (note 3)	V <sub>SD</sub>	I <sub>S</sub> = 0.15A, V <sub>GS</sub> = 0V			1.2	V

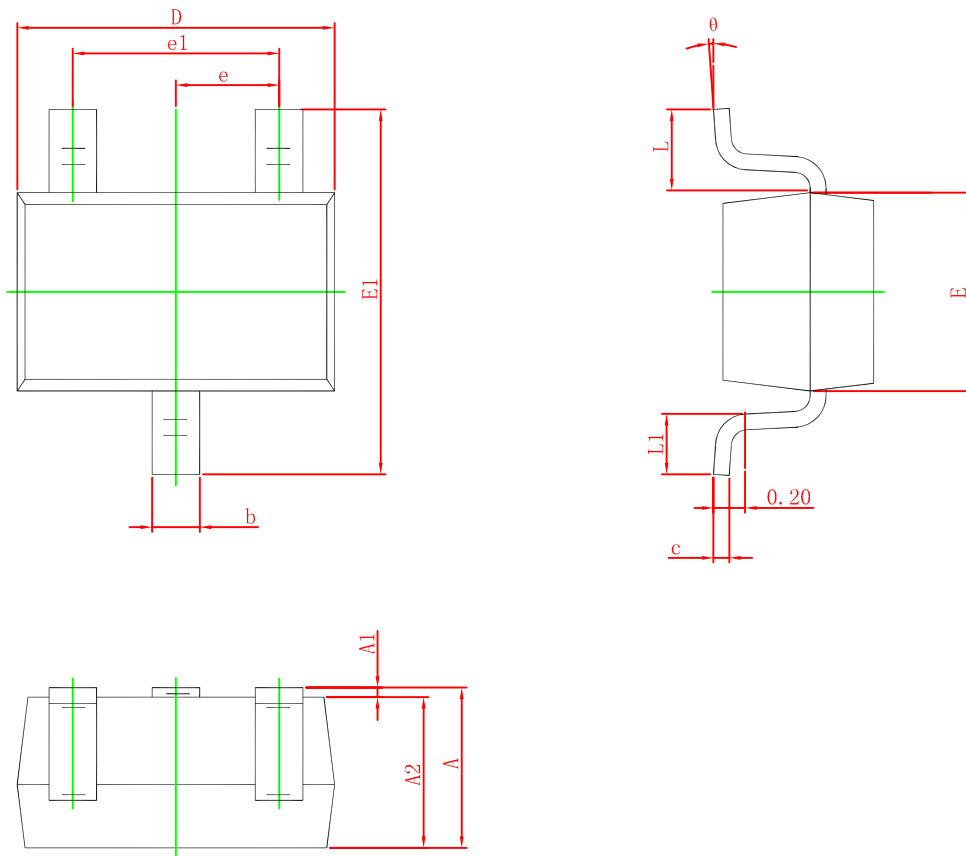
### Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T<sub>A</sub>=25°C.
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 0.5%.
4. These parameters have no way to verify.

## Typical Characteristic Curves



## Product 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°

## Order Information

Device	Package	Marking	Carrier	Quantity	HSF Status
S3134KW	SOT-323	34K	Tape & Reel	3000pcs/Reel	RoHS compliant