Elektronische Bauelemente

SSF3144KW-C

0.6A, 30V, $R_{DS(ON)}$ 0.5Ω

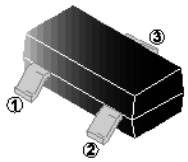
N-Channel Enhancement Mode Power MOSFET

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- N-Channel Switch with Low $R_{DS(ON)}$
- Operated at Low Logic Level Gate Drive

SOT-323



APPLICATION

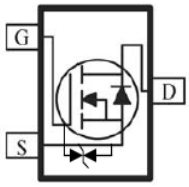
- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

MARKING

KM

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7 inch



ORDER INFORMATION

Part Number	Type
SSF3144KW-C	Lead (Pb)-free and Halogen-free

ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	0.6	A
Power Dissipation	P_D	200	mW
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	625	℃/W
Operating Junction & Storage Temperature	T_J, T_{STG}	-55~150	℃

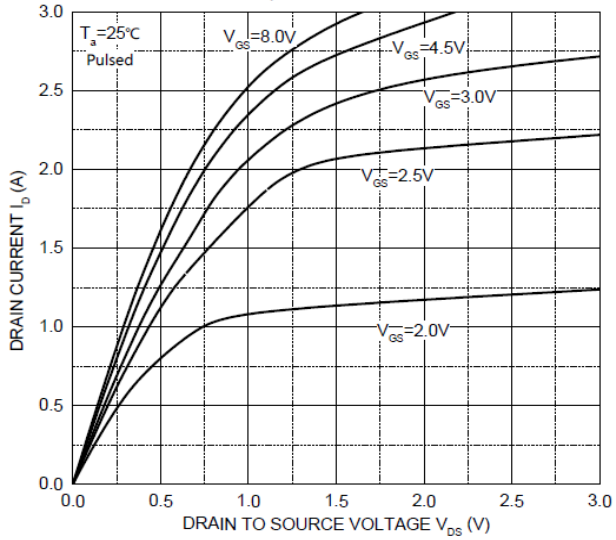
ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	30	-	-	V	V_{GS}=0, I_D=250μA
Gate-Threshold Voltage [3]	$V_{GS(th)}$	0.5	1	1.5	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Body Leakage Current	I_{GSS}	-	-	±3	μA	V_{GS}= ±10V, V_{DS}=0
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	V_{DS}=30V, V_{GS}=0
Static Drain-Source On-Resistance [3]	$R_{DS(on)}$	-	0.32	0.5	Ω	V_{GS}=4.5V, I_D=0.6A
		-	0.41	0.6		V_{GS}=2.5V, I_D=0.3A
Forward Transconductance	g_{fs}	-	0.1	-	S	V_{GS}=5V, I_D=0.5A
Total Gate Charge	Q_g	-	1.2	-	nC	V_{DS}=15V V_{GS}=4.5V I_D=0.8A
Gate-source charge	Q_{gs}	-	0.28	-		
Gate-drain charge	Q_{gd}	-	0.3	-		
Turn-on Delay Time	$T_{d(on)}$	-	5	-	nS	V_{DS}=15V V_{GS}=4.5V I_D=0.7A R_G=51Ω
Rise Time	T_r	-	8.2	-		
Turn-off Delay Time	$T_{d(off)}$	-	23	-		
Fall Time	T_f	-	41	-		
Input Capacitance	C_{iss}	-	44	-	pF	V_{DS}=10V V_{GS}=0 f=1MHz
Output Capacitance	C_{oss}	-	15	-		
Reverse Transfer Capacitance	C_{rss}	-	8	-		
Source-Drain Diode						
Diode Forward Voltage [3]	V_{SD}	-	0.87	1.2	V	I_S=0.6A, V_{GS}=0

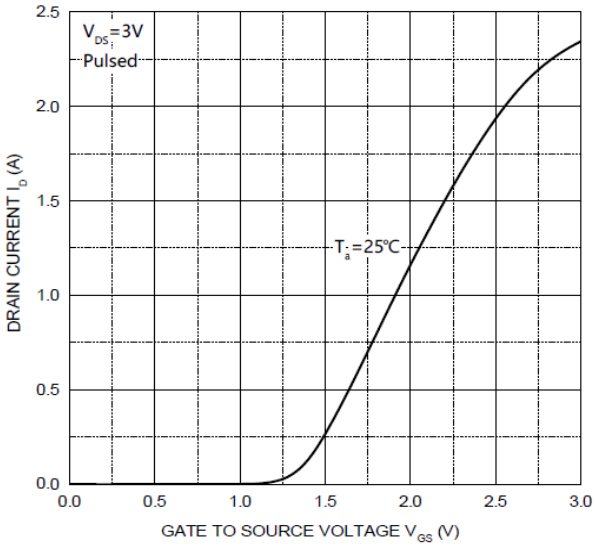
Notes:
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. These tests are performed with no heat sink at T_A=25℃.
3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

CHARACTERISTIC CURVE

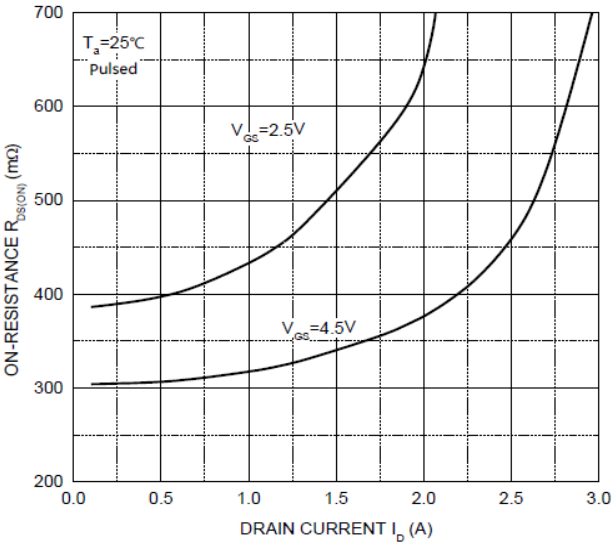
Output Characteristics



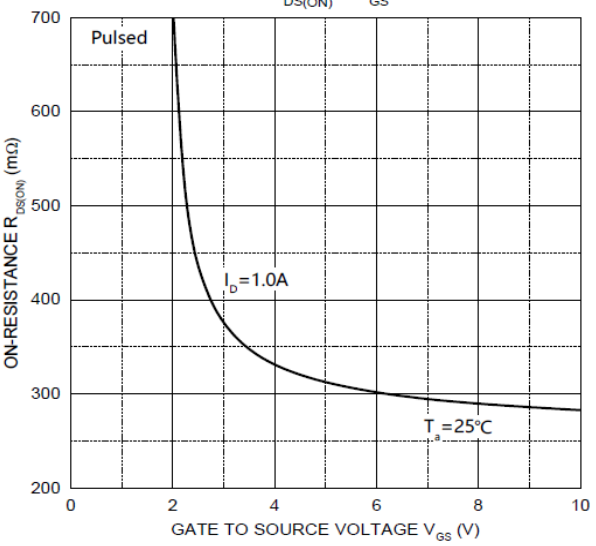
Transfer Characteristics



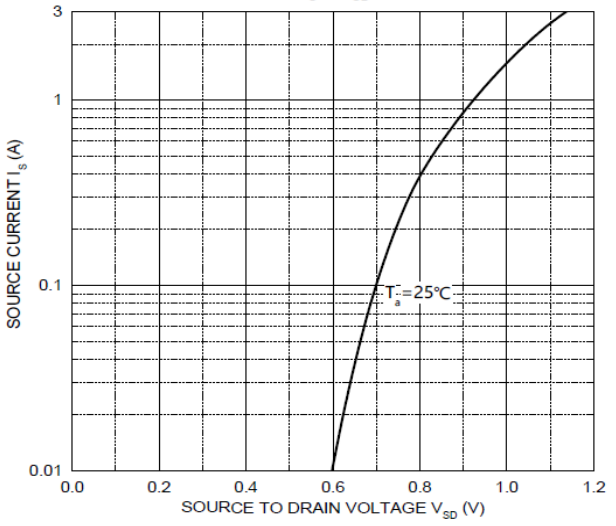
$R_{DS(ON)}$ – I_D



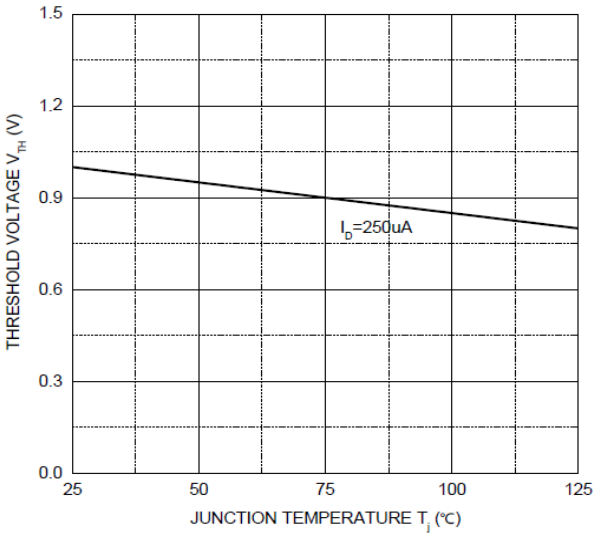
$R_{DS(ON)}$ - V_{GS}



I_S - V_{SD}

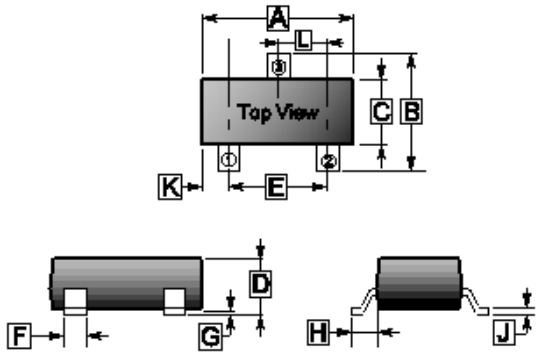


Threshold Voltage



PACKAGE OUTLINE DIMENSIONS

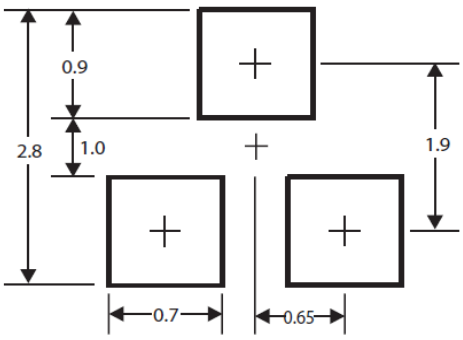
SOT-323



REF.	Millimeter	
	Min.	Max.
A	1.80	2.20
B	1.80	2.55
C	1.10	1.40
D	0.80	1.15
E	1.20	2.00
F	0.15	0.50
G	0.10 REF.	
H	0.525 REF.	
J	0.05	0.25
K	0.35 REF.	
L	0.65 TYP.	

MOUNTING PAD LAYOUT

SOT-323



*Dimensions in millimeters