

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

## DESCRIPTION

SSF3134KW-C provides the designers with the best combination of fast switching, ruggedized device design, low on-resistance and cost-effectiveness. SOT-323 package is universally preferred for all commercial-industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

## FEATURES

- Lower gate charge
- Simple drive requirement
- Fast switching characteristic

## MARKING

34K

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7 inch

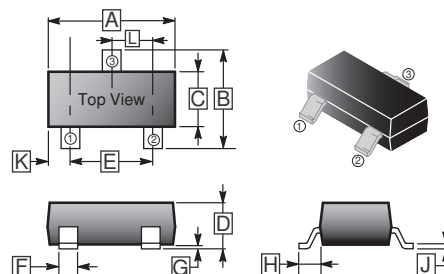
## ORDER INFORMATION

Part Number	Type
SSF3134KW-C	Lead (Pb)-free and Halogen-free

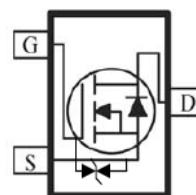
## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$I_D$	0.75	A
Pulsed Drain Current <sup>1</sup>	$I_{DM}$	3	A
Maximum Power Dissipation <sup>2</sup>	$P_D$	200	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$
Operating Junction & Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^{\circ}\text{C}$

## SOT-323



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.1 REF.	
B	1.80	2.45	H	0.525 REF.	
C	1.1	1.4	J	0.08	0.25
D	0.80	1.10	K	0.8 TYP.	
E	1.20	1.40	L	0.65 TYP.	
F	0.15	0.40			



**ELECTRICAL CHARACTERISTICS** (T<sub>J</sub>=25°C unless otherwise specified)

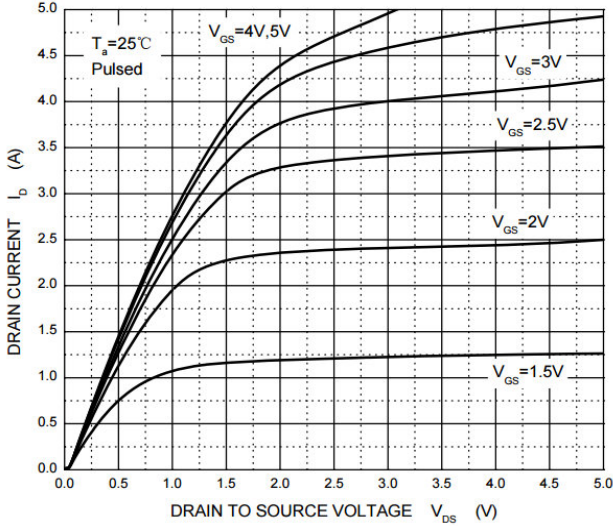
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	20	-	-	V	V <sub>GS</sub> =0, I <sub>D</sub> =250μA
Gate-Threshold Voltage <sup>3</sup>	V <sub>GS(th)</sub>	0.35	-	1.1	V	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA
Gate-Source Leakage Current	I <sub>GSS</sub>	-	-	±20	μA	V <sub>DS</sub> =0, V <sub>GS</sub> = ±10V
Drain-Source Leakage Current	I <sub>DSS</sub>	-	-	1	μA	V <sub>DS</sub> =20V, V <sub>GS</sub> =0
Forward Transfer conductance	g <sub>fs</sub>	1	-	-	S	V <sub>DS</sub> =10V, I <sub>D</sub> =0.8A
Static Drain-Source On-Resistance <sup>3</sup>	R <sub>DS(ON)</sub>	-	-	400	mΩ	V <sub>GS</sub> =4.5V, I <sub>D</sub> =0.55A
		-	-	660		V <sub>GS</sub> =2.5V, I <sub>D</sub> =0.45A
		-	-	1200		V <sub>GS</sub> =1.8V, I <sub>D</sub> =0.35A
Input Capacitance	C <sub>iss</sub>	-	120	-	pF	V <sub>DS</sub> =16V V <sub>GS</sub> =0 f=1MHz
Output Capacitance	C <sub>oss</sub>	-	20	-		
Reverse Transfer Capacitance	C <sub>rss</sub>	-	15	-		
Total Gate Charge	Q <sub>g</sub>	-	0.88	-	nC	I <sub>D</sub> =0.606A V <sub>DS</sub> =10V V <sub>GS</sub> =4.5V
Gate-Source Charge	Q <sub>gs</sub>	-	0.14	-		
Gate-Drain Charge	Q <sub>gd</sub>	-	0.29	-		
Turn-on Delay Time	T <sub>d(on)</sub>	-	6.7	-	nS	V <sub>DD</sub> =10V V <sub>GEN</sub> =4.5V R <sub>G</sub> =10Ω I <sub>D</sub> =0.5A
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>						
Diode Forward Voltage <sup>3</sup>	V <sub>SD</sub>	-	-	1.2	V	I <sub>S</sub> =0.15A, V <sub>GS</sub> =0

Notes:

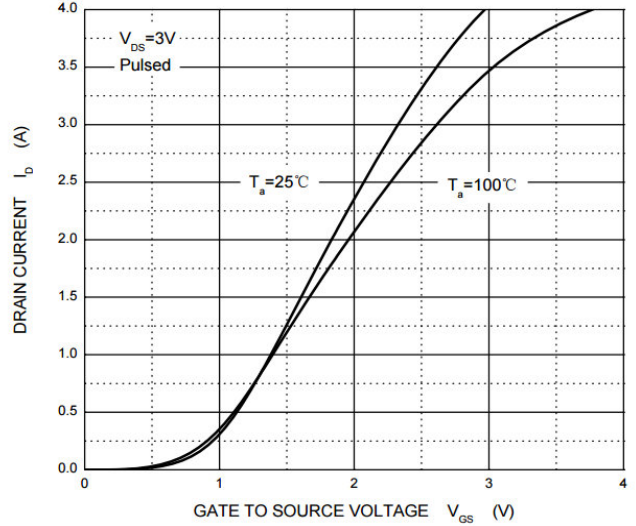
1. Repetitive Rating: Pulse width is limited by the maximum junction temperature.
2. This test is performed without heat sink at T<sub>A</sub>=25°C.
3. Pulse Test: Pulse width≤300μs, duty cycle≤0.5%.

**CHARACTERISTIC CURVES**

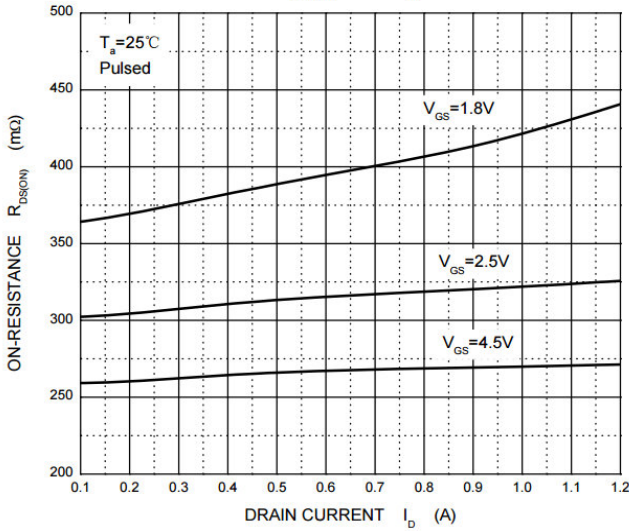
**Output Characteristics**



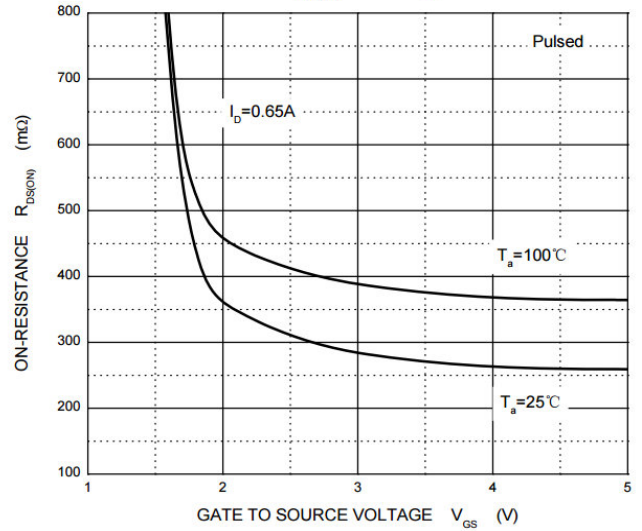
**Transfer Characteristics**



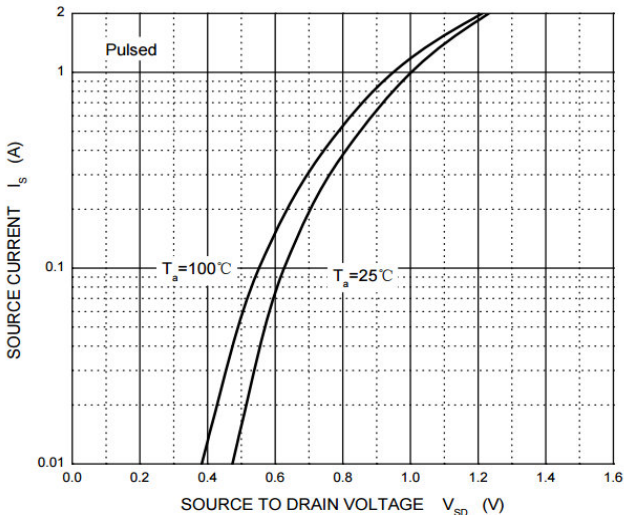
$R_{DS(ON)}$  —  $I_D$



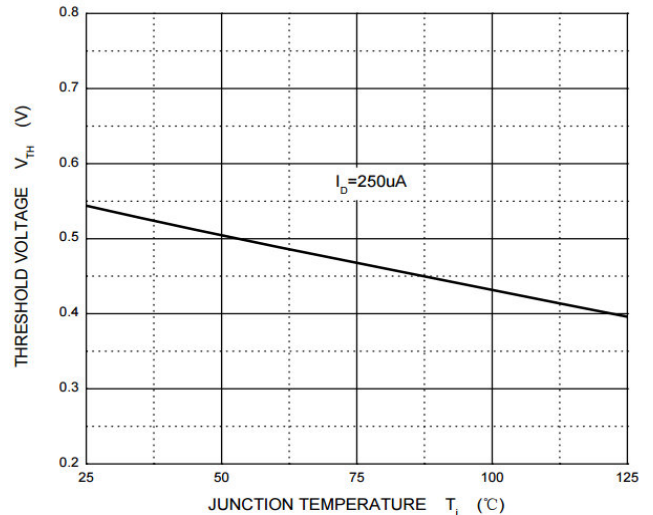
$R_{DS(ON)}$  —  $V_{GS}$



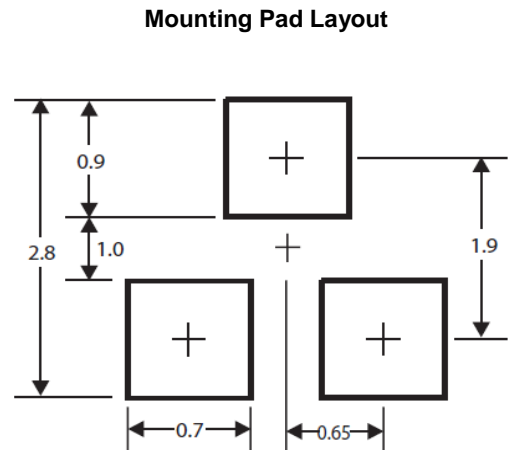
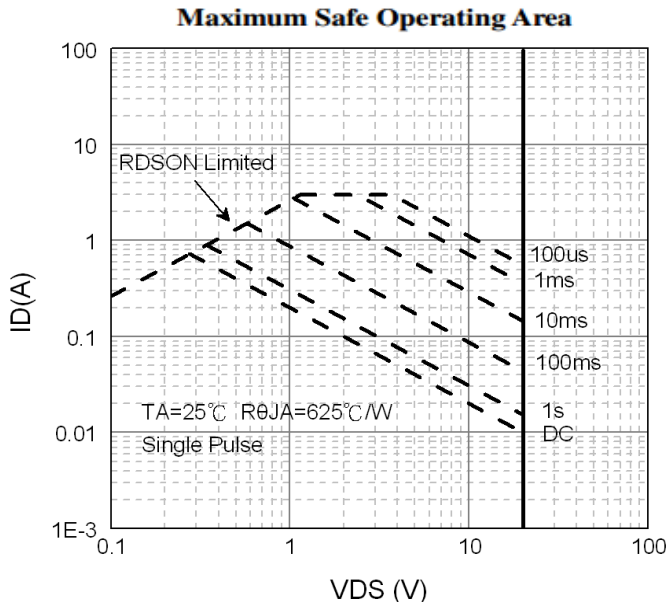
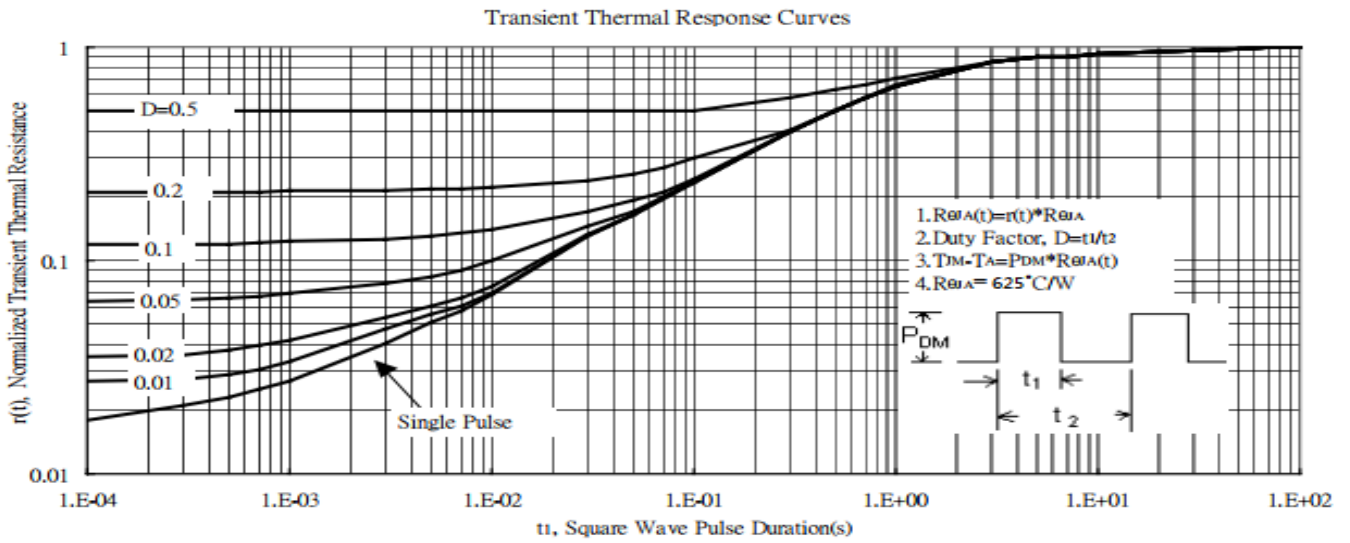
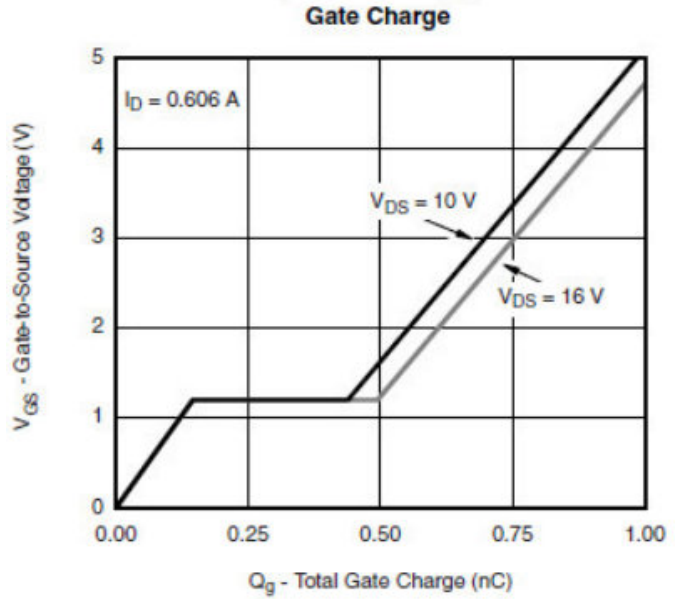
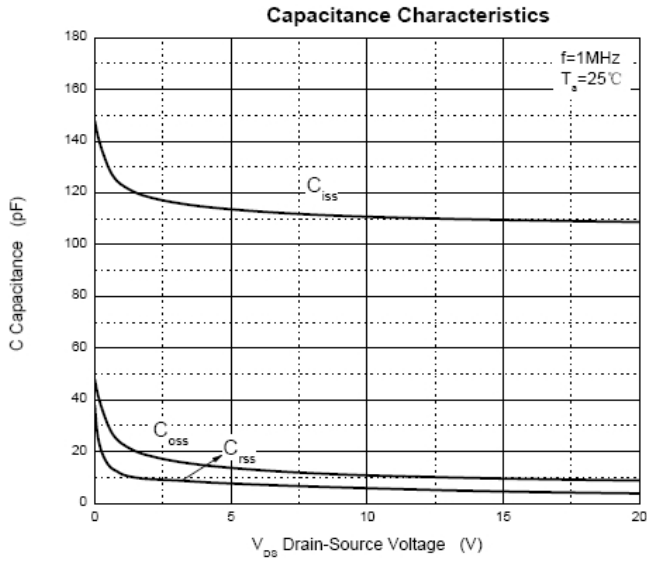
$I_S$  —  $V_{SD}$



**Threshold Voltage**



**CHARACTERISTIC CURVES**



\*Dimensions in millimeters