

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

DESCRIPTION

SSF3134KW 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

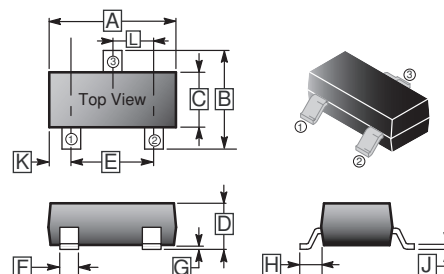
MARKING

34K

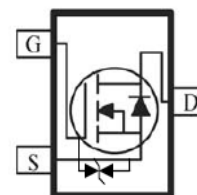
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7 inch

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			



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}	± 12	V
Continuous Drain Current	I_D	0.75	A
Pulsed Drain Current ¹	I_{DM}	3	A
Maximum Power Dissipation ²	P_D	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C} / \text{W}$
Operating Junction and Storage Temperature	T_J, T_{STG}	150, -55~150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_J=25^\circ\text{C}$ unless otherwise specified)

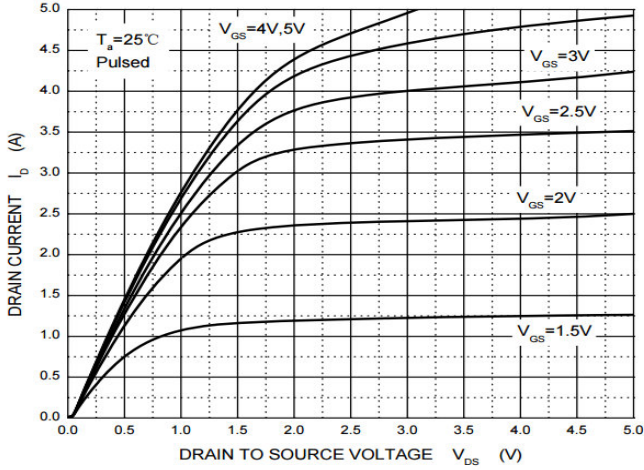
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	20	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$
Gate-Threshold Voltage ³	$V_{GS(th)}$	0.35	-	1.1	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Gate-Source Leakage Current	I_{GSS}	-	-	± 20	μA	$V_{DS}=0, V_{GS}=\pm 10\text{V}$
Drain-Source Leakage Current	I_{DSS}	-	-	1	μA	$V_{DS}=20\text{V}, V_{GS}=0$
Forward Transconductance	g_{fs}	1	-	-	S	$V_{DS}=10\text{V}, I_D=0.8\text{A}$
Static Drain-Source On-Resistance ³	$R_{DS(ON)}$	-	-	380	m Ω	$V_{GS}=4.5\text{V}, I_D=650\text{mA}$
		-	-	450		$V_{GS}=2.5\text{V}, I_D=550\text{mA}$
		-	-	800		$V_{GS}=1.8\text{V}, I_D=450\text{mA}$
Switching Characteristics						
Input Capacitance	C_{iss}	-	120	-	pF	$V_{DS}=16\text{V}$ $V_{GS}=0$ $f=1\text{MHz}$
Output Capacitance	C_{oss}	-	20	-		
Reverse Transfer Capacitance	C_{rss}	-	15	-		
Total Gate Charge	Q_g	-	0.88	-	nC	$I_D=0.606\text{A}$ $V_{DS}=10\text{V}$ $V_{GS}=4.5\text{V}$
Gate-Source Charge	Q_{gs}	-	0.14	-		
Gate-Drain Charge	Q_{gd}	-	0.29	-		
Turn-on Delay Time	$T_{d(on)}$	-	6.7	-	nS	$V_{DD}=10\text{V}$ $V_{GEN}=4.5\text{V}$ $R_G=10\Omega$ $I_D=0.5\text{A}$
Rise Time	T_r	-	4.8	-		
Turn-off Delay Time	$T_{d(off)}$	-	17.3	-		
Fall Time	T_f	-	7.4	-		
Drain-Source Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	-	-	1.2	V	$I_S=0.15\text{A}, V_{GS}=0$

Notes:

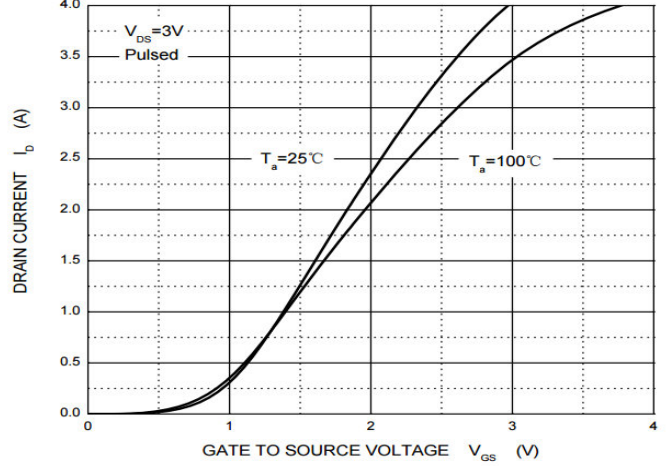
1. Repetitive Rating: Pulse width is limited by the maximum junction temperature.
2. This test is performed without heat sink at $T_A=25^\circ\text{C}$.
3. Pulse Test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 0.5\%$.

CHARACTERISTIC CURVES

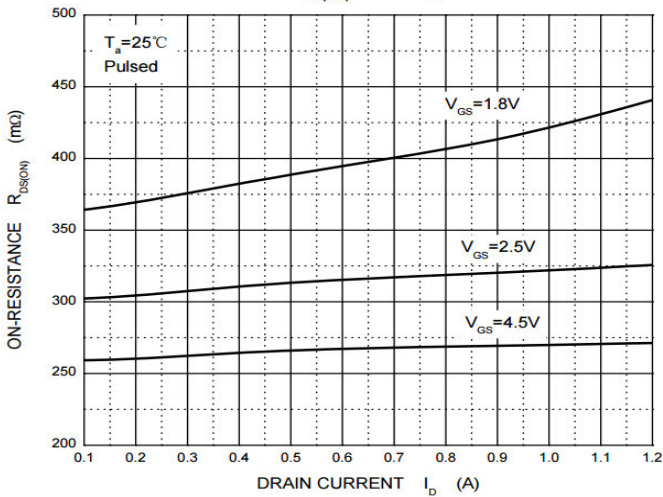
Output Characteristics



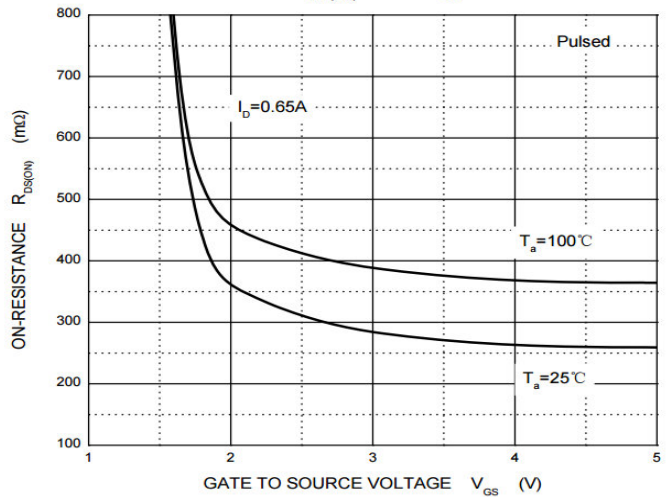
Transfer Characteristics



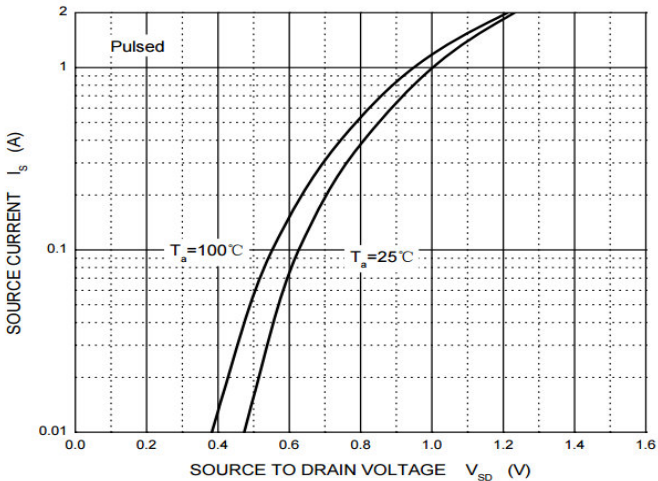
$R_{DS(ON)}$ — I_D



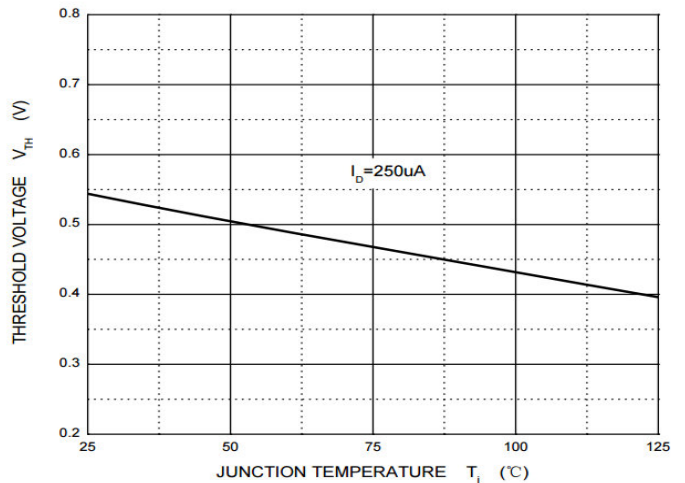
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

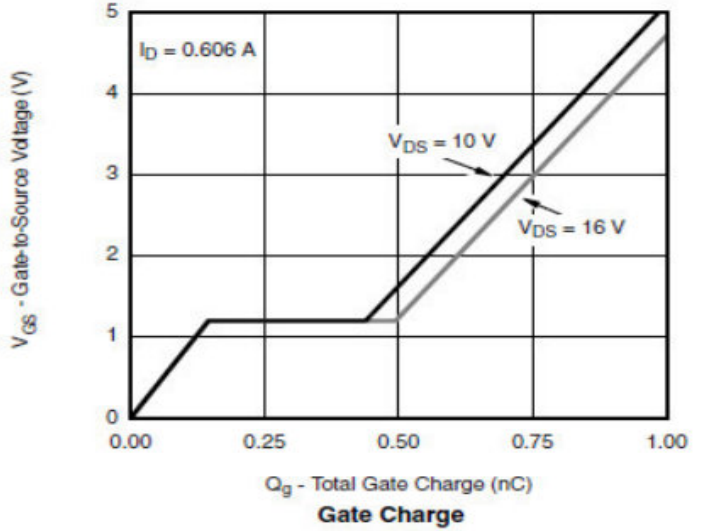
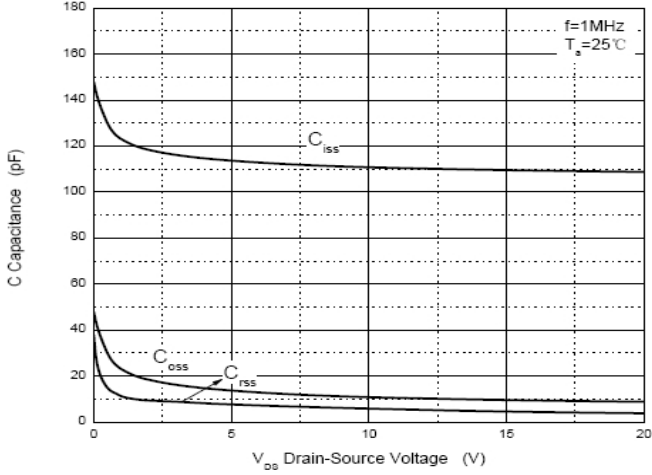


Threshold Voltage

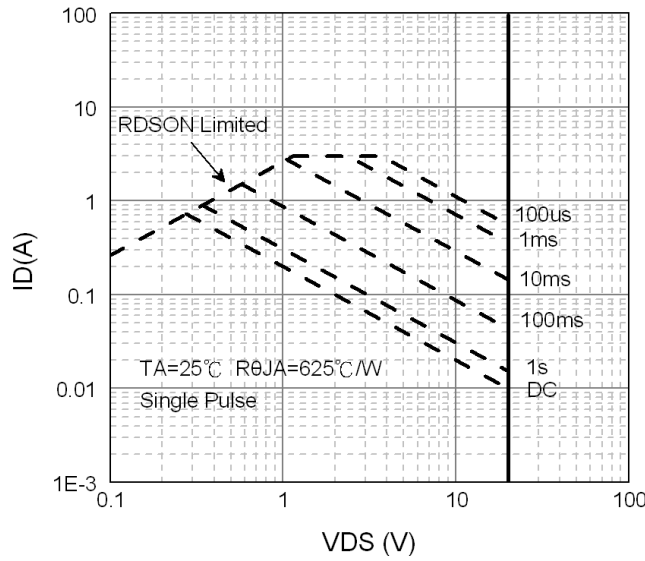


CHARACTERISTIC CURVES

Capacitance Characteristics



Maximum Safe Operating Area



Transient Thermal Response Curves

