

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

FEATURES

- 20V/560mA
 $R_{DS(ON)} \leq 400m\Omega @ V_{GS}=4.5V$
 $R_{DS(ON)} \leq 660m\Omega @ V_{GS}=2.5V$
 $R_{DS(ON)} \leq 1200m\Omega @ V_{GS}=1.8V$
- Reliable and Rugged
- Green Device Available
- ESD Protection

APPLICATION

- Interfacing
- Switching

MARKING

KF

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-723	8K	7 inch

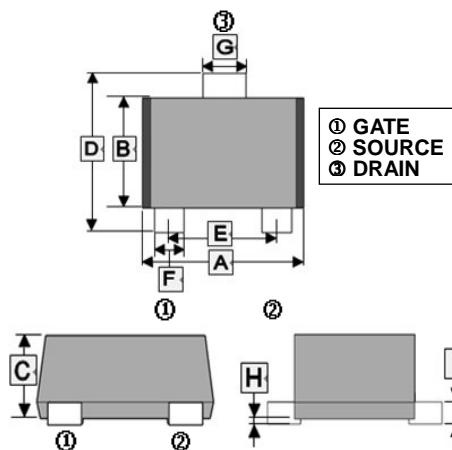
ORDER INFORMATION

Part Number	Type
SSN3134K-C	Lead (Pb)-free and Halogen-free

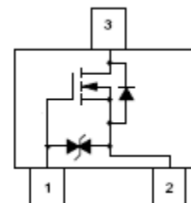
MAXIMUM RATINGS ($T_A=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ¹ @ $V_{GS}=4.5V$	$T_A=25^\circ C$	0.56	A
	$T_A=85^\circ C$	0.4	
Pulsed Drain Current ²	I_{DM}	2.4	A
Total Power Dissipation	$T_A=25^\circ C$	150	mW
Operating Junction & Storage Temperature Range	T_J, T_{STG}	150, -55~150	$^\circ C$
Thermal Data			
Thermal Resistance Junction-ambient ¹	$R_{\theta JA}$	833	$^\circ C/W$

SOT-723



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.150	1.250	F	0.170	0.270
B	0.750	0.850	G	0.270	0.370
C	-	0.500	H	0	0.050
D	1.150	1.250	I	-	0.150
E	0.800TYP.				



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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	20	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$	
Gate Threshold Voltage	$V_{GS(th)}$	0.45	-	1	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	
Gate-Body Leakage Current	I_{GSS}	-	-	± 10	μA	$V_{DS}=0, V_{GS}=\pm 10\text{V}$	
Zero Gate Voltage Drain Current	I_{DSS}	$T_J=25^\circ\text{C}$	-	-	1	μA	$V_{DS}=20\text{V}, V_{GS}=0$
		$T_J=70^\circ\text{C}$	-	-	25	μA	$V_{DS}=16\text{V}, V_{GS}=0$
Drain-Source On-Resistance ³	$R_{DS(ON)}$		-	-	400	m Ω	$V_{GS}=4.5\text{V}, I_D=0.55\text{A}$
			-	-	660		$V_{GS}=2.5\text{V}, I_D=0.45\text{A}$
			-	-	1200		$V_{GS}=1.8\text{V}, I_D=0.35\text{A}$
Total Gate Charge	Q_g	-	0.76	-	nC	$I_{DS}=0.25\text{A}$ $V_{DS}=10\text{V}$ $V_{GS}=4.5\text{V}$	
Gate-Source Charge	Q_{gs}	-	0.074	-			
Gate-Drain ("Miller") Change	Q_{gd}	-	0.27	-			
Turn-on Delay Time	$T_{d(on)}$	-	5	-	nS	$V_{DS}=10\text{V}$ $I_D=0.15\text{A}$ $V_{GS}=4\text{V}$ $R_{GEN}=10\Omega$	
Rise Time	T_r	-	5	-			
Turn-off Delay Time	$T_{d(off)}$	-	24	-			
Fall Time	T_f	-	18	-			
Input Capacitance	C_{iss}	-	64	-	pF	$V_{DS}=10\text{V}$ $V_{GS}=0$ $f=1\text{MHz}$	
Output Capacitance	C_{oss}	-	14	-			
Reverse Transfer Capacitance	C_{rss}	-	9	-			

Source-Drain Diode

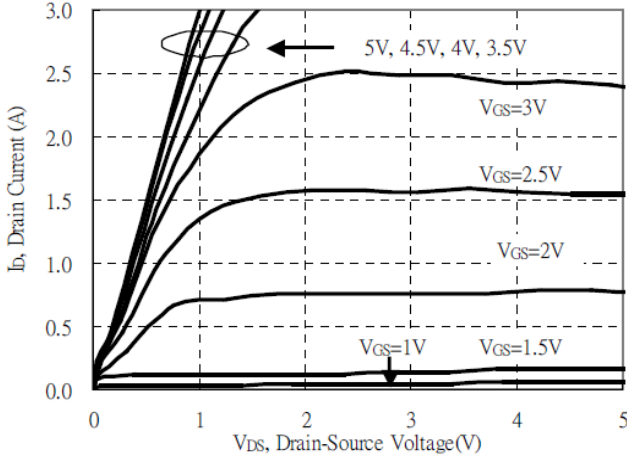
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Continuous Source Current ¹	I_S	-	-	0.56	A	
Pulsed Source Current ²	I_{SM}	-	-	2.4	A	
Diode Forward Voltage ³	V_{SD}	-	-	1	V	$I_S=0.15\text{A}, V_{GS}=0\text{V}$
Reverse Recovery Time	t_{rr}		4.9	-	nS	$I_F=0.5\text{A}, di/dt=100\text{A}/\mu\text{s}, T_J=25^\circ\text{C}$
Reverse Recovery Charge	Q_{rr}		1.0	-	nC	

Notes:

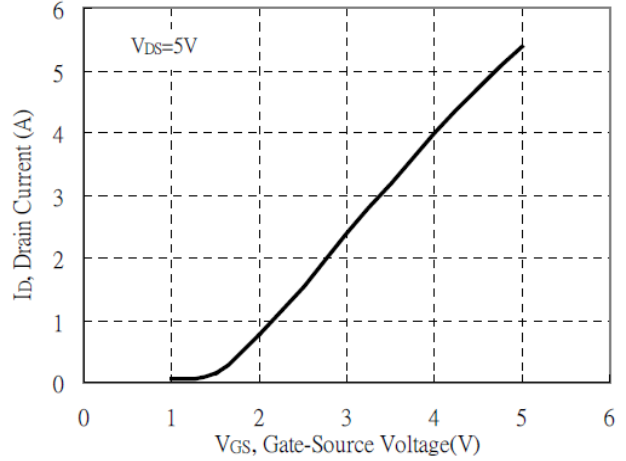
1. Surface mounted on FR4 Board using the minimum recommended pad size.
2. Pulse width limited by maximum junction temperature.
3. The data tested by pulsed, pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

CHARACTERISTIC CURVES

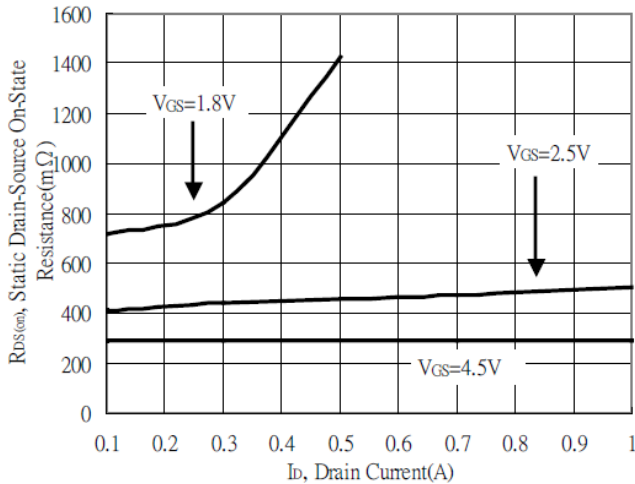
Typical Output Characteristics



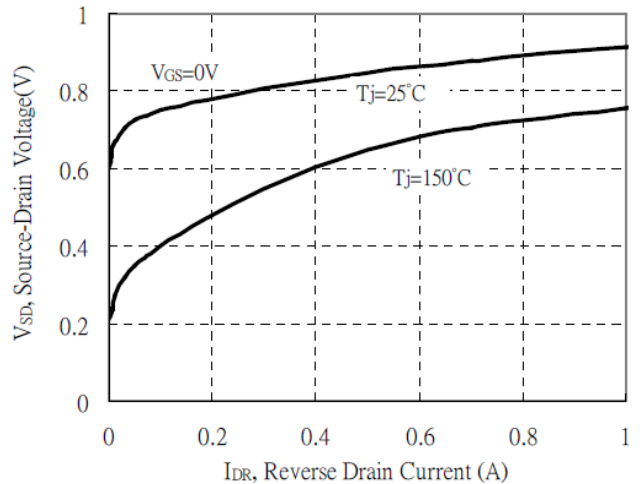
Typical Transfer Characteristics



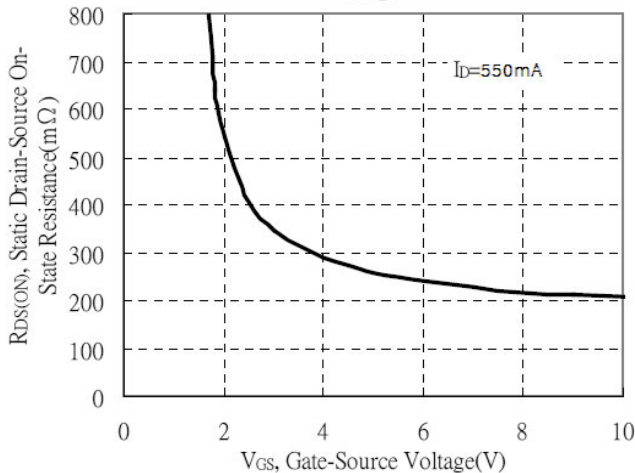
Static Drain-Source On-State resistance vs Drain Current



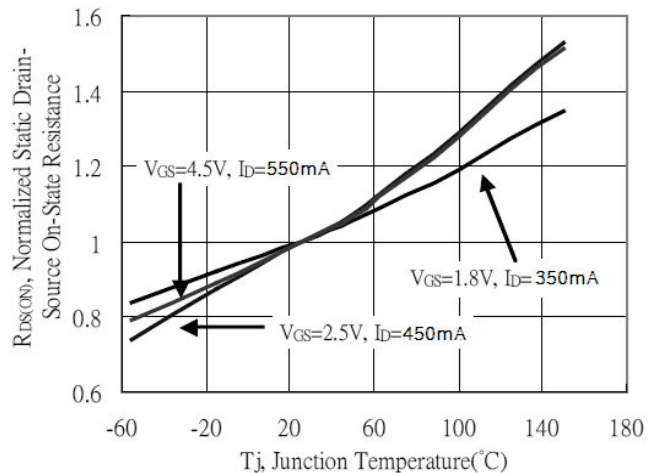
Reverse Drain Current vs Source-Drain Voltage



Static Drain-Source On-State Resistance vs Gate-Source Voltage

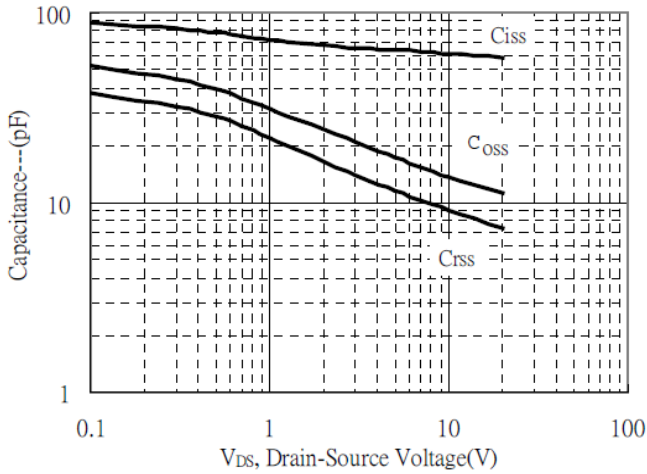


Drain-Source On-State Resistance vs Junction Temperature

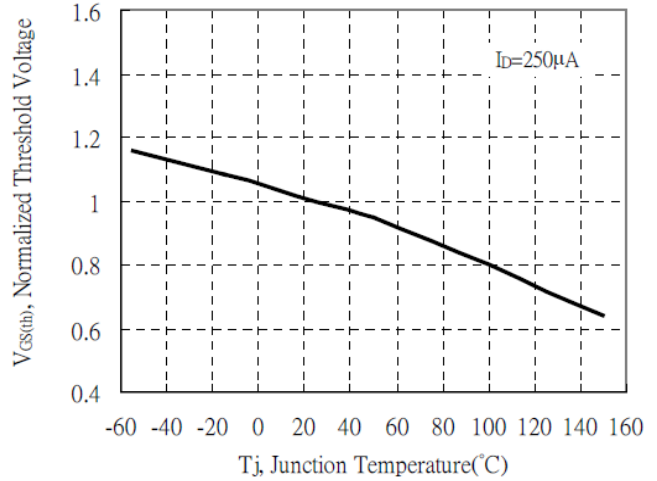


CHARACTERISTIC CURVES

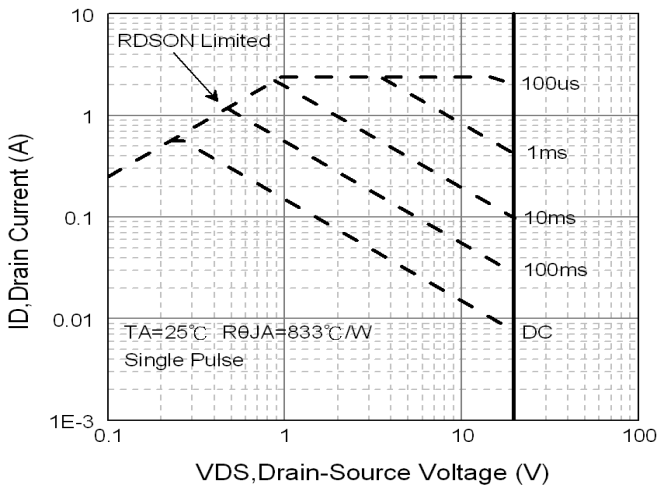
Capacitance vs Drain-to-Source Voltage



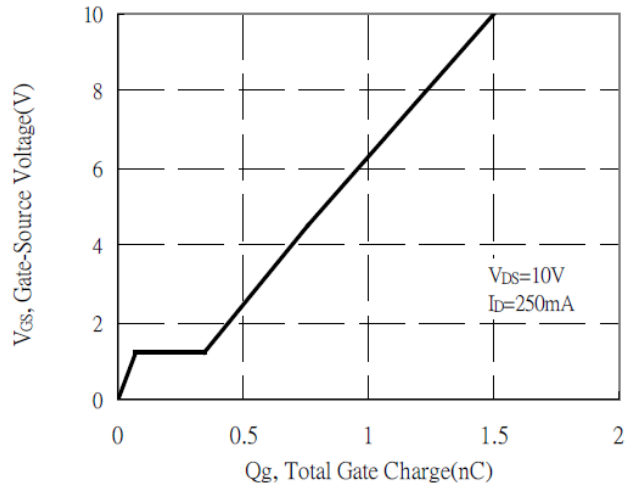
Threshold Voltage vs Junction Temperature



Maximum Safe Operating Area



Gate Charge Characteristics



Transient Thermal Response Curves

