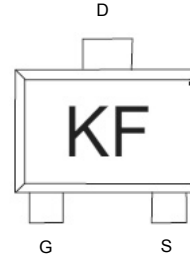


Main Product Characteristics

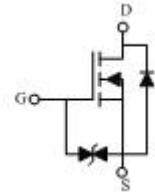
$V_{(BR)DSS}$	20V
$R_{DS(on)MAX}$	380mΩ@4.5V
	450mΩ@2.5V
	800mΩ@1.8V
I_D	0.75A



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Marking and Pin Assignment



Schematic Diagram

Features and Benefits

- Advanced MOSFET process technology
- Ideal for battery operated systems, load switching, power converters and other general purpose applications
- Low on-resistance with low gate charge
- Fast switching and reverse body recovery



Description

The SSF3134K utilizes the latest techniques to achieve high cell density and low on-resistance. These features make this device extremely efficient and reliable for use in high efficiency switch mode power supply and a wide variety of other applications.

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Typical Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current ¹	I_D	0.75	A
Pulsed Drain Current ($t_p=10\ \mu\text{s}$)	I_{DM}	1.8	A
Power Dissipation ¹	P_D	150	mW
Thermal Resistance from Junction to Ambient ¹	$R_{\theta JA}$	833	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^\circ\text{C}$

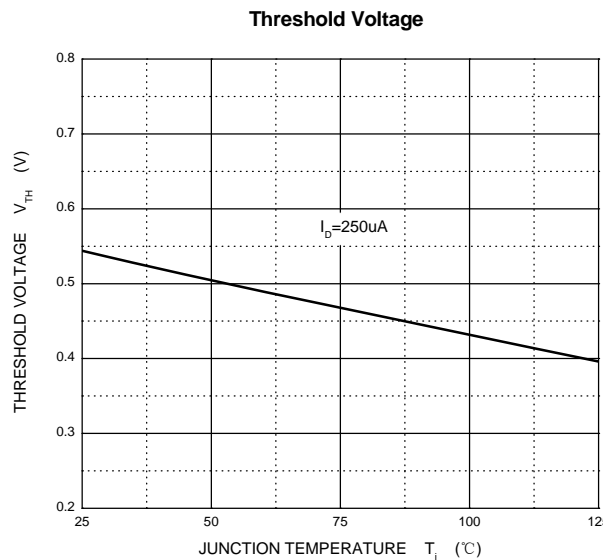
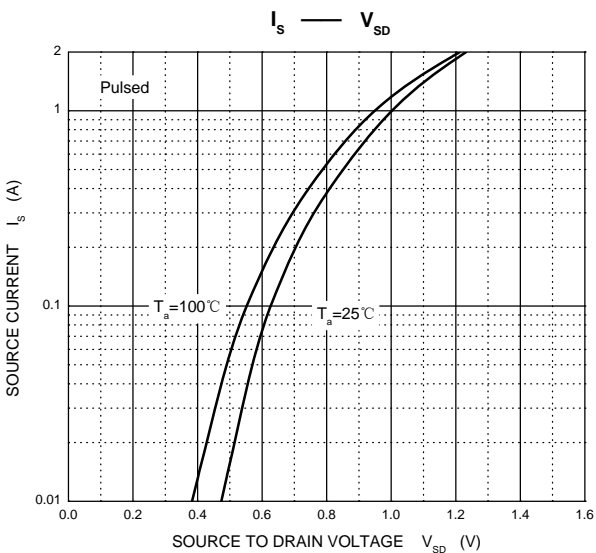
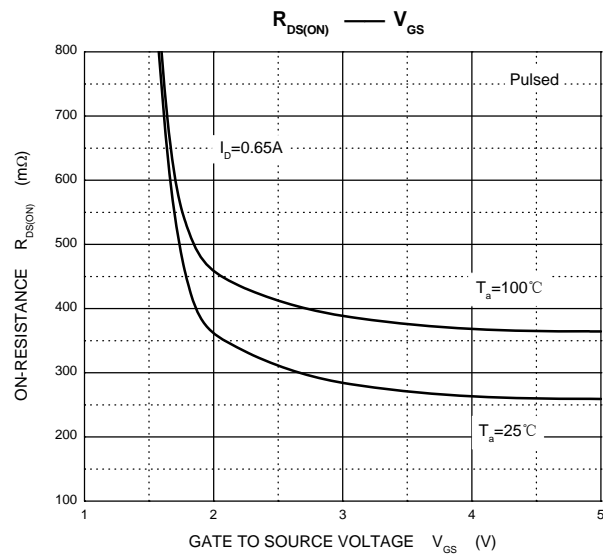
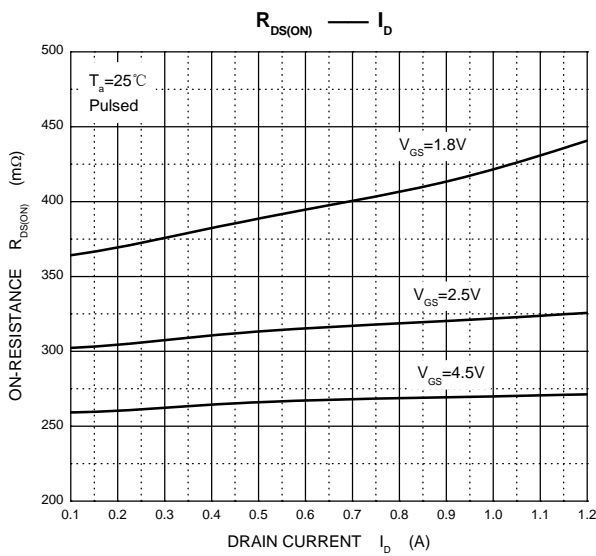
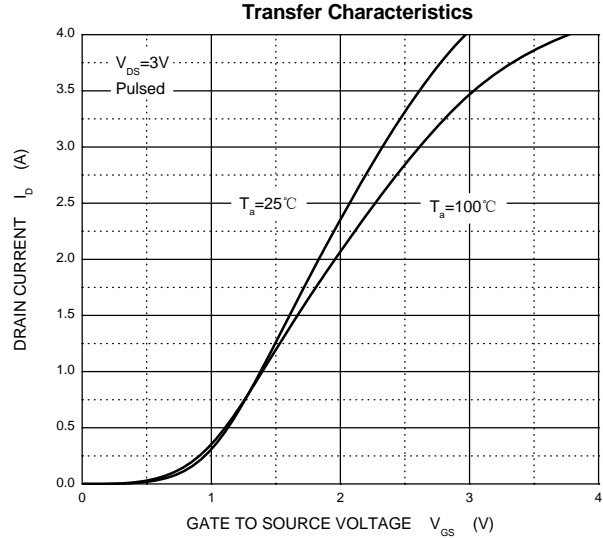
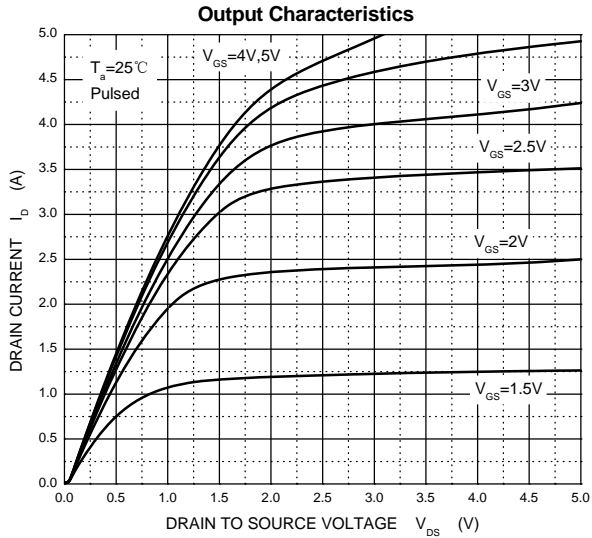
Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20	---	---	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$	---	---	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$	---	---	± 20	μA
Gate Threshold Voltage ²	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.35	0.54	1.1	V
Drain-Source On-Resistance ²	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 0.65A$	---	270	380	m Ω
		$V_{GS} = 2.5V, I_D = 0.55A$	---	320	450	m Ω
		$V_{GS} = 1.8V, I_D = 0.45A$	---	390	800	m Ω
Forward Transconductance ²	g_{FS}	$V_{DS} = 10V, I_D = 0.8A$	---	1.6	---	S
Diode Forward Voltage	V_{SD}	$I_S = 0.15A, V_{GS} = 0V$	---	---	1.2	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 16V, V_{GS} = 0V, f = 1MHz$	---	79	120	pF
Output Capacitance	C_{oss}		---	13	20	pF
Reverse Transfer Capacitance	C_{rss}		---	9	15	pF
Switching Characteristics						
Turn-On Delay Time ³	$t_{d(on)}$	$V_{GS} = 4.5V, V_{DS} = 10V,$ $I_D = 500mA, R_{GEN} = 10\Omega$	---	6.7	---	ns
Turn-On Rise Time ³	t_r		---	4.8	---	ns
Turn-Off Delay Time ³	$t_{d(off)}$		---	17.3	---	ns
Turn-Off Fall Time ³	t_f		---	7.4	---	ns

Notes :

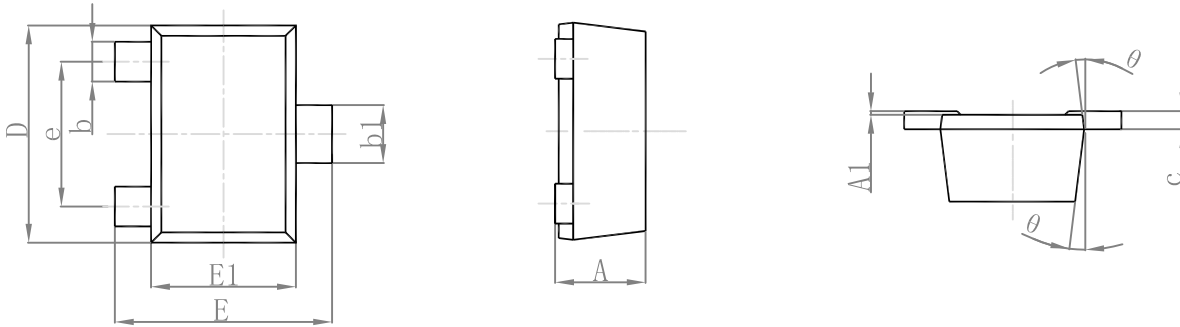
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300 μs , Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.

Typical Electrical and Thermal Characteristic Curves



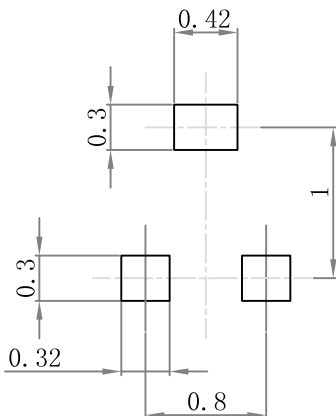
Package Outline Dimensions

SOT-723



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.