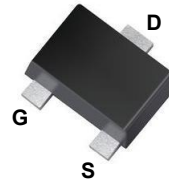
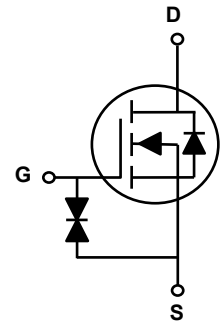


Main Product Characteristics

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



SOT-723



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 S3134K 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 ($T_A=25^{\circ}C$ 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 ($t_p=10 \mu s$)	I_{DM}	1.8	A
Power Dissipation ¹	P_D	150	mW
Thermal Resistance from Junction to Ambient ¹	$R_{\theta JA}$	833	$^{\circ}C / W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^{\circ}C$

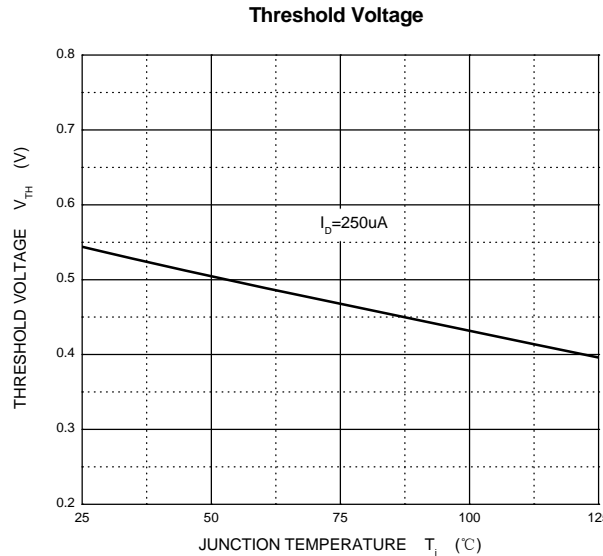
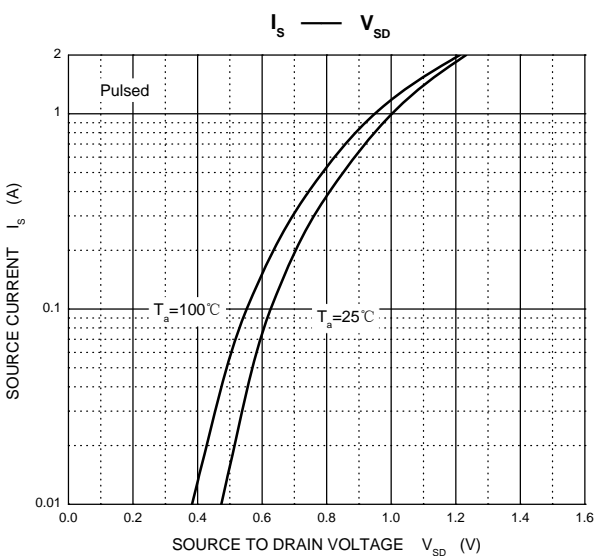
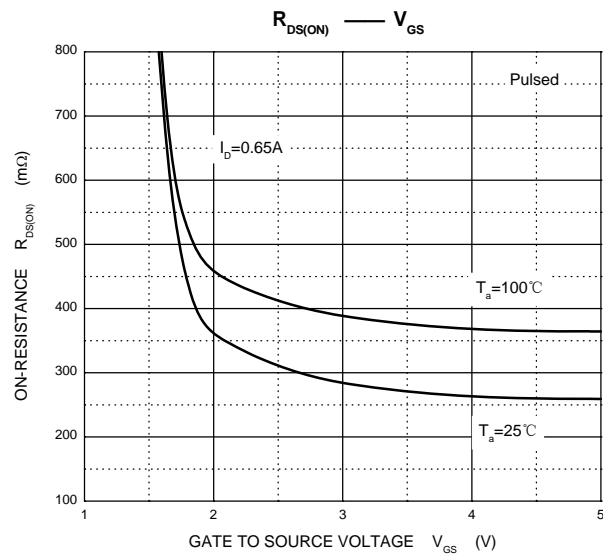
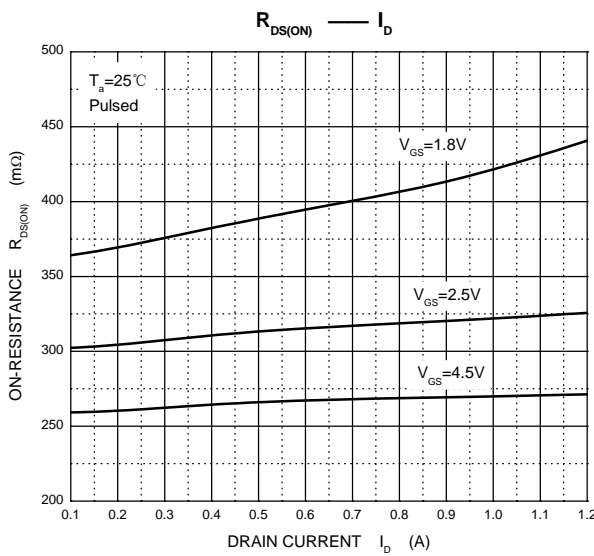
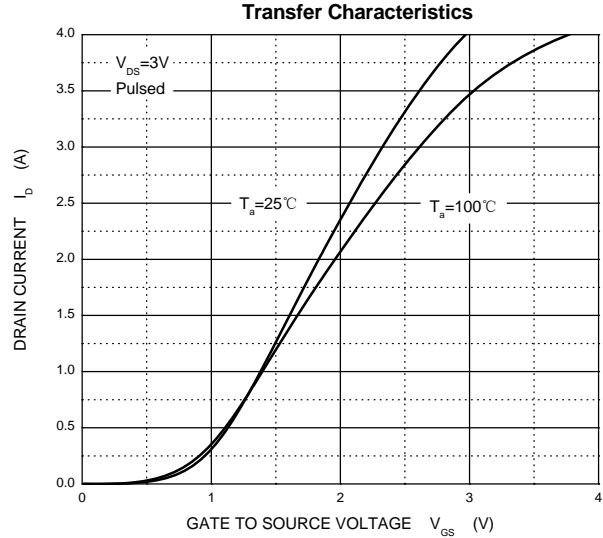
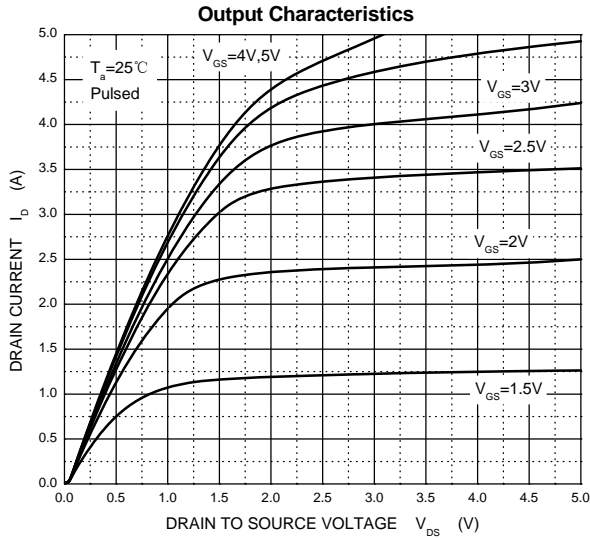
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	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} = ±10V, V _{DS} = 0V	---	±4	±8	μA
Gate Threshold Voltage ²	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	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	mΩ
		V _{GS} = 2.5V, I _D = 0.55A	---	320	450	mΩ
		V _{GS} = 1.8V, I _D = 0.45A	---	390	800	mΩ
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} = 10Ω	---	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 :

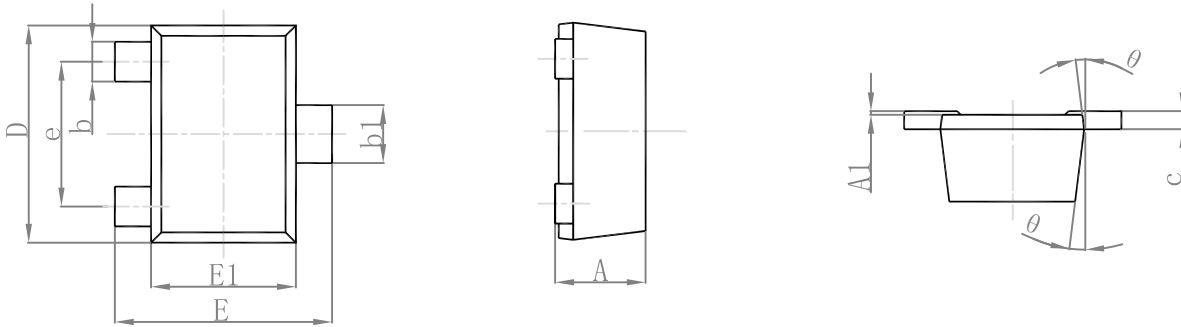
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.

Typical Electrical and Thermal Characteristic Curves



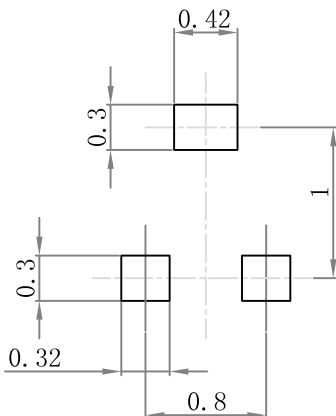
Package Outline Dimensions

SOT-723



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.320	0.500	0.012	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: ± 0.05mm.
 3. The pad layout is for reference purposes only.