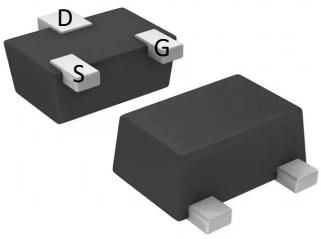
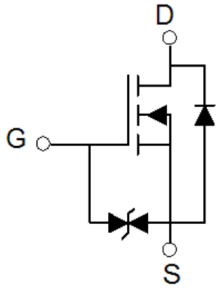
Features

* V_{DS} = 20V, I_D = 0.98A
* $R_{DS(ON)}$ = Typ 190mΩ@V_{GS} = 4.5V
* $R_{DS(ON)}$ = Typ 255mΩ@V_{GS} = 2.5V
* ESD protected
* SOT-723 package

Package and Circuit Diagram

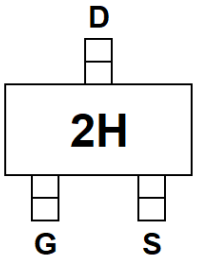


SOT-723



Circuit diagram

Marking diagram



Ordering Information

Part Number	Packaging	Reel Size
SSM3K35AMFV,L3F-CN	8000/Tape & Reel	7 inch

Absolute maximum ratings (T_A=25°C unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	±12	V
I_D	Continuous Drain Current (T_A= 25℃)	0.98	A
I_D	Continuous Drain Current (T_A= 70℃)	0.6	A
I_{DM}	Pulsed Drain Current note1	3	A
P_D	Power Dissipation (T_A= 25℃)	0.2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	℃/W
T_J	Maximum Junction Temperature	-40 ~ +150	℃
T_{STG}	Storage Temperature	-55 ~ +150	℃

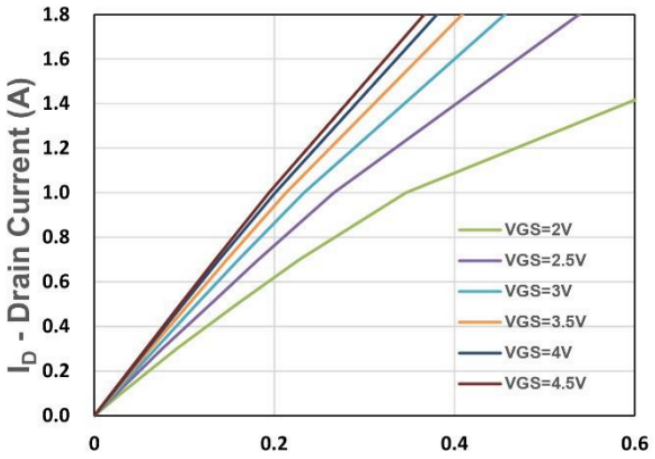
Electrical characteristics (T_A=25°C unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
Off characteristics						
$V_{(BR)DS}$	Drain-source breakdown voltage	V_{GS} = 0V, I_D= 250μA	20			V
I_{DS}	Zero gate voltage drain current	V_{DS} = 16V, V_{GS} = 0V			1	μA
I_{GS}	Gate to body leakage current	V_{DS} = 0V, V_{GS} = ±12V			±10	μA
On characteristics						
$V_{GS(th)}$	Gate threshold voltage	V_{DS} = V_{GS}, I_D = 250μA	0.5	0.75	1	V
$R_{DS(on)}$	Static drain-source on resistance Note2	V_{GS} = 4.5V, I_D = 0.55A		190	230	mΩ
		V_{GS} = 2.5V, I_D = 0.45A		255	330	mΩ
		V_{GS} = 1.8V, I_D = 0.35A		365	550	mΩ
Dynamic characteristics						
Ciss	Input capacitance	V_{DS} = 10V		41		pF
Coss	Output capacitance	V_{GS} = 0V		17		pF
Crss	Reverse transfer capacitance	f = 1MHz		10		pF
Qg	Total gate charge	V_{DS} = 10V		1		nC
Qgs	Gate-source charge	I_D = 1A		0.3		nC
Qgd	Gate-drain charge	V_{GS} = 4.5V		0.1		nC
Switching characteristics						
td(on)	Turn-on delay time	V_{DS} = 10V		1.2		ns
tr	Turn-on rise time	I_D = 1A		24.7		ns
td(off)	Turn-off delay time	R_{GEN} = 6Ω		13.6		ns
tf	Turn-off fall time	V_{GS} = 4.5V		14.8		ns
Drain-source diode characteristics and maximum ratings						
V_{SD}	Drain to source diode forward voltage	V_{GS} = 0V, I_S = 1A		0.85	1.1	V
I_S	Maximum continuous drain to source diode forward current				0.98	A
trr	Body diode reverse recovery time	I_F = 1A, di/dt = 100A/μs		9.2		ns
Qrr	Body diode reverse recovery charge			0.8		nC

Notes:1. Repetitive rating: pulse width limited by maximum junction temperature

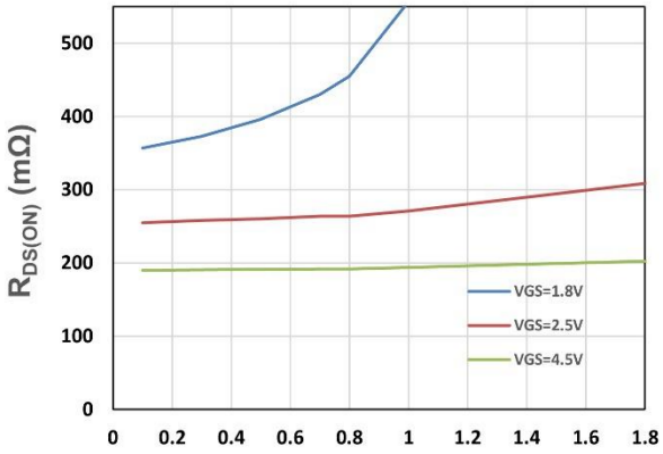
2. Pulse test: pulse width≤300μs, duty cycle ≤2%

Typical performance characteristics (T_A=25°C unless otherwiseSpecified)



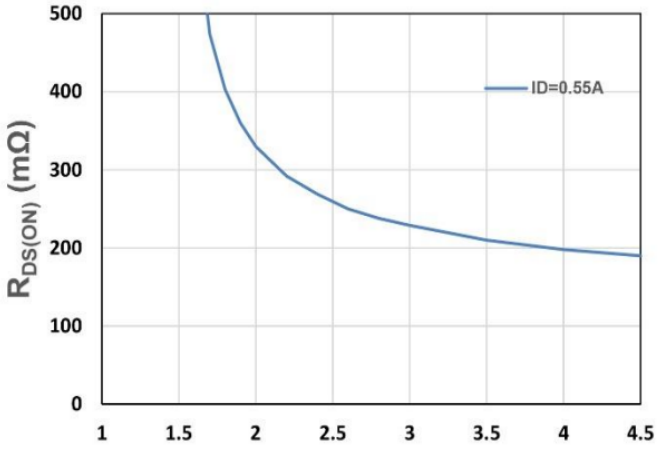
V_{DS} - Drain - Source Voltage (V)

Figure 1. Output Characteristics



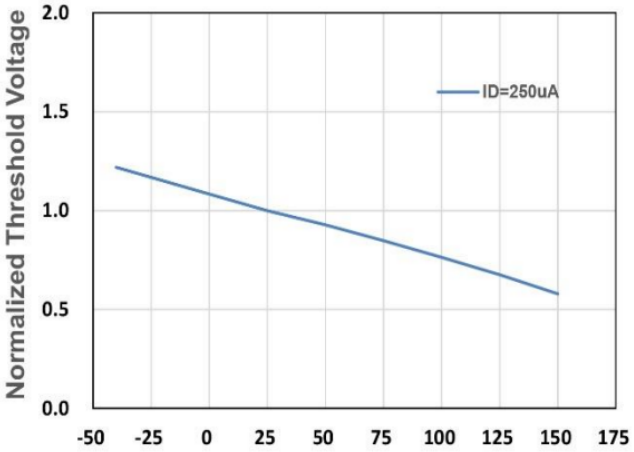
I_D- Drain Current (A)

Figure 2. On-Resistance vs. ID



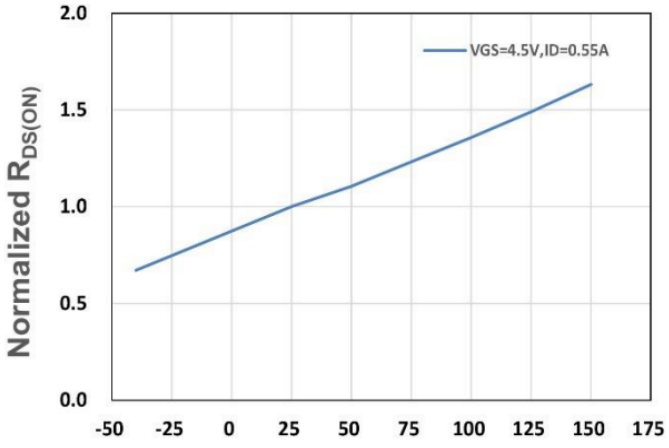
V_{GS} - Gate - Source Voltage (V)

Figure 3. On-Resistance vs. VGS



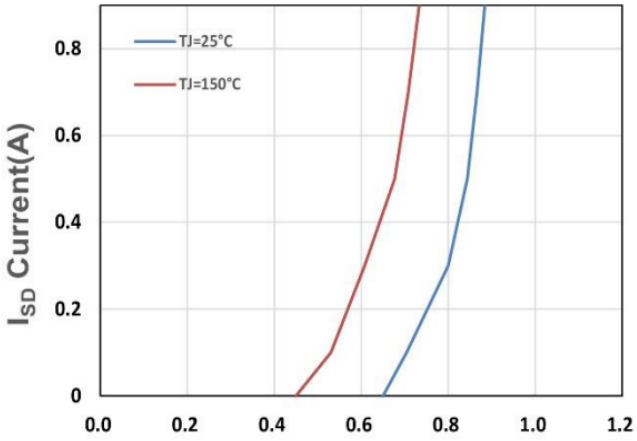
Tj, Junction Temperature(°C)

Figure 4. Gate Threshold Voltage



Tj , Junction Temperature(°C)

Figure 5. Drain-Source On Resistance



V_{SD}, Source-Drain Voltage(V)

Figure 6. Source-Drain Diode Forward

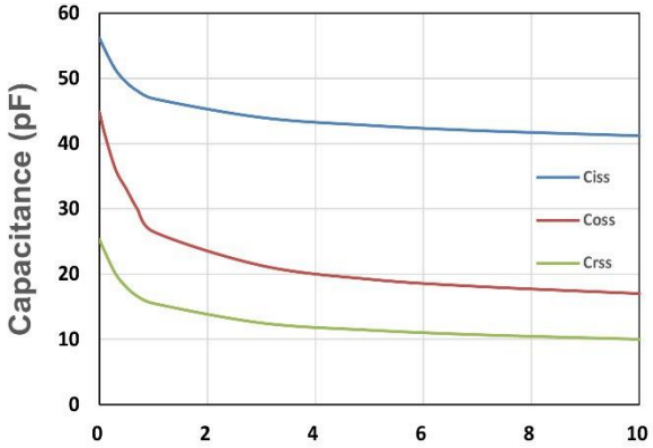


Figure 7. Capacitance

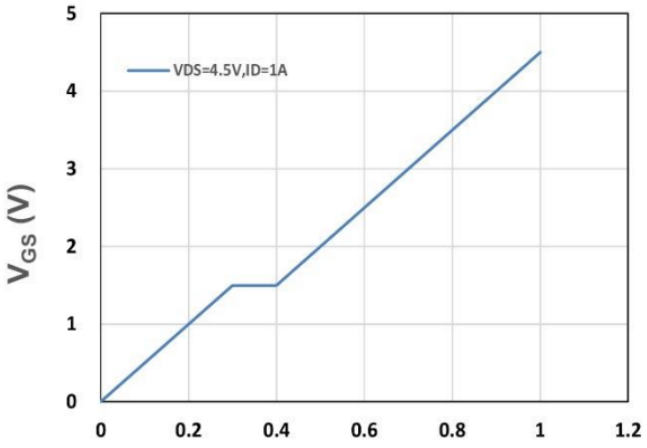
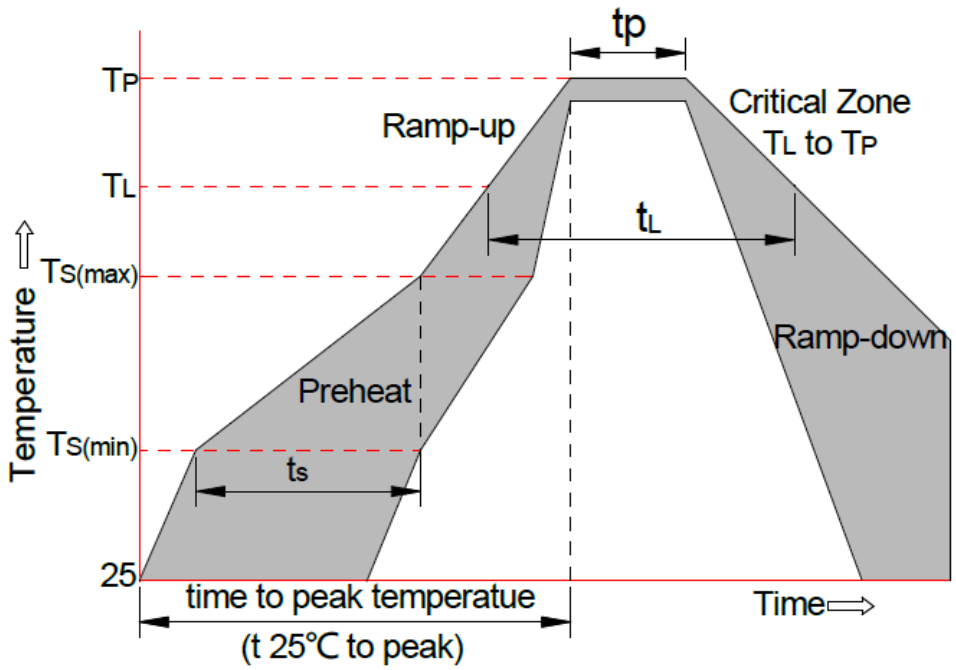


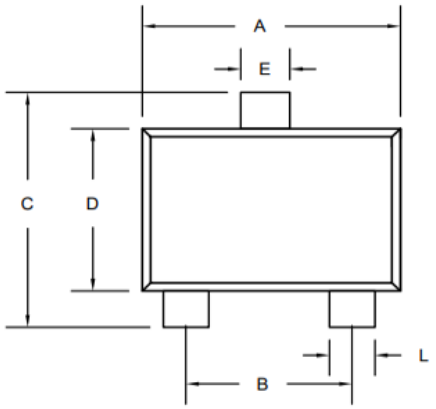
Figure 8. Gate Charge Characteristics

Soldering Parameters



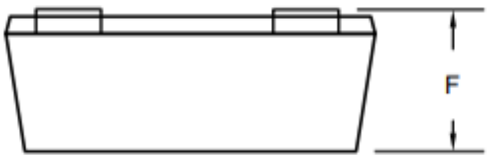
Reflow Conditions		Pb-Free Assembly
Pre-heat	-Temperature Min (Ts (min))	+150°C
	-Temperature Max (Ts (max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs
Average ramp up rate(Liquid us Temp (TL) to peak)		3°C/sec. Max
Ts (max) to TL-Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (TL) (Liquid us)	+217°C
	-Temperature (tL)	60-150 secs
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6 °C/secs. Max
Time 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

SOT-723 Package Outline Drawing

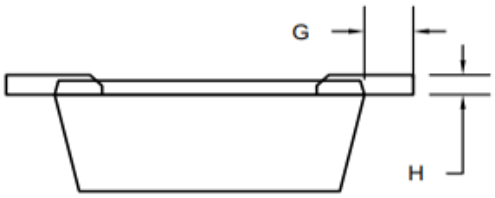


TOP VIEW

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	1.10	1.20	1.30	0.0433	0.0472	0.0512
B	0.80 typ			0.0315 typ		
C	1.10	1.20	1.30	0.0433	0.0472	0.0512
D	0.70	0.80	0.90	0.0276	0.0315	0.0354
E	0.20	0.25	0.30	0.0079	0.0098	0.0118
F	0.40	0.45	0.50	0.0157	0.0177	0.0197
G	0.15	0.20	0.25	0.0059	0.0079	0.0098
H	0.06	0.11	0.16	0.0024	0.0043	0.0063
L	0.15	0.20	0.25	0.0059	0.0079	0.0098

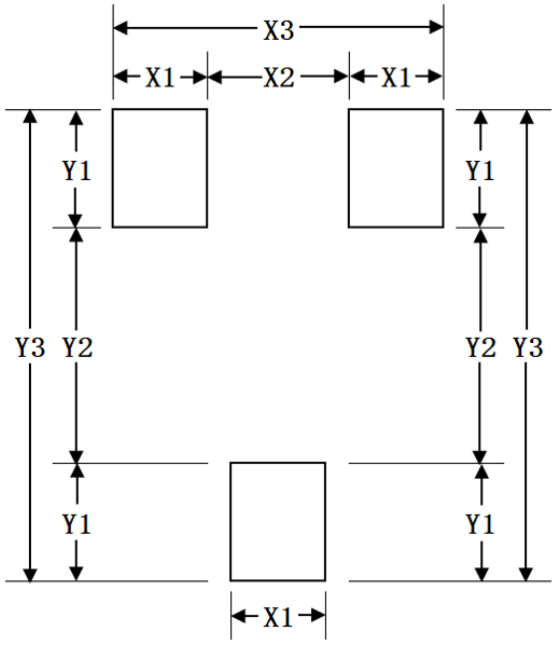


SIDE VIEW



SIDE VIEW

Suggested Pad Layout



SYM	DIMENSIONS	
	MILLIMETER	INCHES
X1	0.40	0.016
X2	0.55	0.022
X3	1.10	0.043
Y1	0.50	0.020
Y2	0.60	0.024
Y3	1.60	0.063

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