DESCRIPTION

The G3400L-B uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a Battery protection or in other Switching application.

GENERAL FEATURES

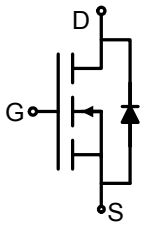
●

V_{DSS}	$R_{DS(ON)}$ @4.5V (Typ)	$R_{DS(ON)}$ @2.5V (Typ)	$R_{DS(ON)}$ 10V (Typ)	I_D
25V	31mΩ	45mΩ	28mΩ	5.8A

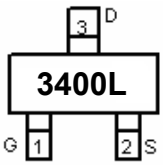
- High Power and current handing capability
- RoHS Compliant
- Surface Mount Package

Application

- PWM applications
- Load switch
- Power management



Schematic diagram



Marking and pin assignment



SOT-23-3L

Ordering Information

Part Number	Marking	Case	Packaging
G3400L-B	3400L	SOT-23-3L	3000pcs/Reel

Absolute Maximum Ratings (TA=25℃unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	25	V
Gate-Source Voltage	V_{GS}	±12	V
Drain Current-Continuous	I_D	5.8	A
Drain Current-Pulsed (Note 1)	I_{DM}	30	A
Maximum Power Dissipation	P_D	1.4	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 To 150	℃

Thermal Characteristic

Thermal Resistance,Junction-to-Ambient (Note 2)	$R_{\theta JA}$	1.0	℃/W

Electrical Characteristics (TA=25℃unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	25	33	-	V

Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=25V,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±12V,V_{DS}=0V	-	-	±100	nA
On Characteristics (Note 3)						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	0.7	0.9	1.4	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=2.5V, I_D=4A	-	45	50	mΩ
		V_{GS}=4.5V, I_D=2.9A	-	31	40	mΩ
		V_{GS}=10V, I_D=2.9A	-	28	35	mΩ
Forward Transconductance	g_{FS}	V_{DS}=5V,I_D=2.9A	10	-	-	S
Dynamic Characteristics (Note4)						
Input Capacitance	C_{lss}	V_{DS}=15V,V_{GS}=0V, F=1.0MHz	-	623	-	PF
Output Capacitance	C_{oss}		-	99	-	PF
Reverse Transfer Capacitance	C_{rss}		-	77	-	PF
Switching Characteristics (Note 4)						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=15V,I_D=2.9A V_{GS}=10V,R_{GEN}=3Ω	-	3.3	-	nS
Turn-on Rise Time	t_r		-	4.8	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	26	-	nS
Turn-Off Fall Time	t_f		-	4	-	nS
Total Gate Charge	Q_g	V_{DS}=15V,I_D=5.8A, V_{GS}=4.5V	-	9.5	-	nC
Gate-Source Charge	Q_{gs}		-	1.5	-	nC
Gate-Drain Charge	Q_{gd}		-	3	-	nC
Drain-Source Diode Characteristics						
Diode Forward Voltage (Note 3)	V_{SD}	V_{GS}=0V,I_S=2.9A	-	0.75	1.2	V
Diode Forward Current (Note 2)	I_S		-	-	2.9	A

Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

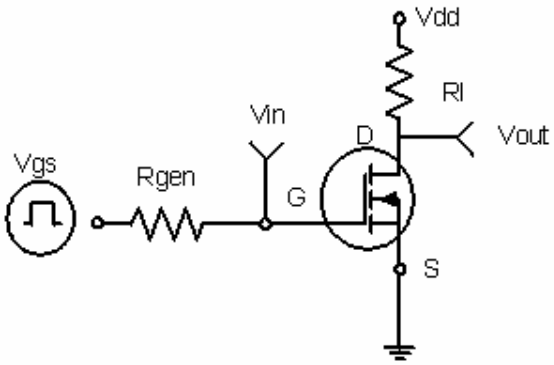


Figure 1:Switching Test Circuit

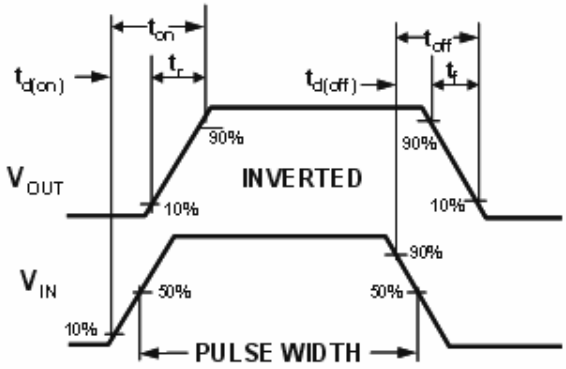
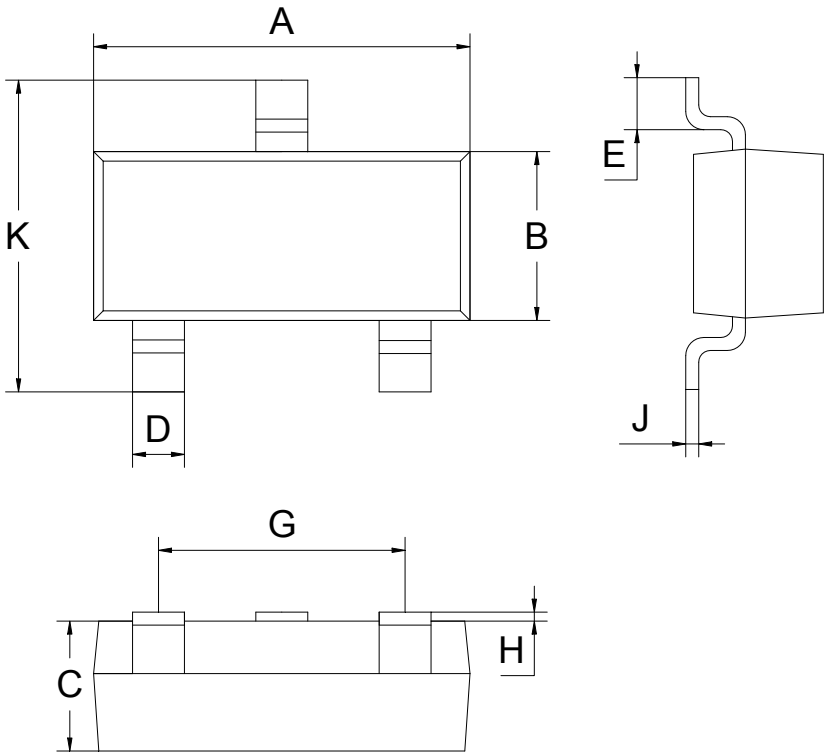


Figure 2:Switching Waveforms

SOT-23-3L Package information



SOT-23-3L			
Dim	MIN	NOM	MAX
A	2.80	2.90	3.00
B	1.50	1.60	1.70
C	1.00	1.10	1.20
D	0.30	0.40	0.50
E	0.25	0.40	0.55
G		1.90	
H	0.00	-	0.10
J	0.047	0.127	0.207
K	2.60	2.80	3.00
All Dimensions in mm			

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