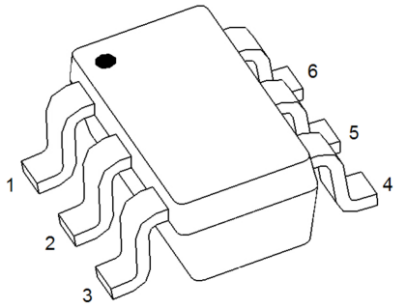
GP8810L

20V N-Channel MOSFET

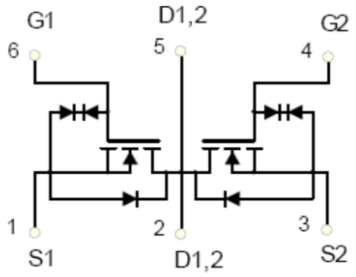
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	14.5mΩ@4.5V	7A
	15.6mΩ@3.8V	
	18.5mΩ@2.5V	
	28mΩ@1.8V	

SOT-23-6L



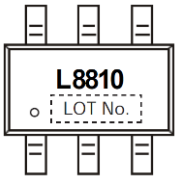
Schematic diagram



DESCRIPTION

The GP8810L uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. It is ESD protected. This device is suitable for use as a uni-directional or bi-directional load switch,facilitated by its common-drain configuration.

MARKING:



ABSOLUTE MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	7	A
Pulsed Drain Current	I_{DM}^*	30	A
Power Dissipation	P_D	1.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃
Lead Temperature for Soldering Purposes(1/8" from case for 10s)	T_L	260	℃

*Repetitive rating：Pluse width limited by junction temperature.

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

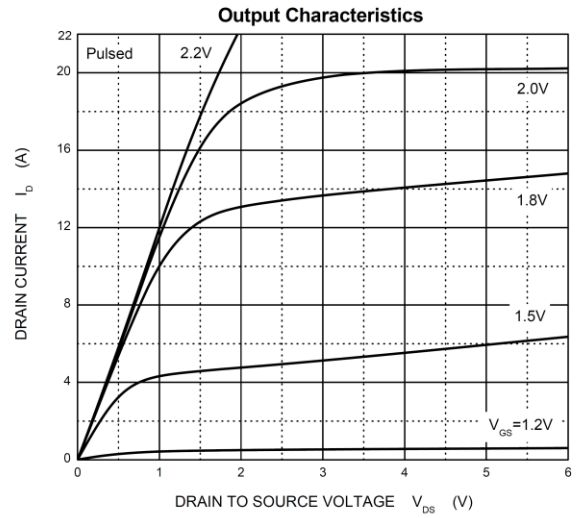
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±4.5V, V_{DS} = 0V			±1	
		V_{GS} =±10V, V_{DS} = 0V			±5	
Gate threshold voltage(1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.4	0.75	1.0	V
Drain-source on-resistance(1)	$R_{DS(on)}$	V_{GS} =10V, I_D =3A	11.5	13.5	18	mΩ
		V_{GS} =4.5V, I_D =3A	12.5	14.5	20	
		V_{GS} =3.8V, I_D =3A	13.6	15.6	22	
		V_{GS} =2.5V, I_D =3A	15.5	18.5	26	
		V_{GS} =1.8V, I_D =3 A	22	28	39	
Forward tranconductance(1)	g_{FS}	V_{DS} =5V, I_D =7A	9			S
Diode Forward voltage(1)	V_{DS}	V_{GS} =0V, I_S=1A			1	V
Dynamic characteristics(2)						
Input Capacitance	C_{iss}	V_{DS} =10V,V_{GS} =0V,f =1MHz		1150		pF
Output Capacitance	C_{oss}			185		
Reverse Transfer Capacitance	C_{rss}			145		
Total gate charge	Q_g	V_{DS} =10V,V_{GS} =4.5V,I_D =7A		15		nC
Gate-source charge	Q_{gs}			0.8		
Gate-drain charge	Q_{gd}			3.2		
Switching Characteristics(2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=5V,V_{DD}=10V, R_L=1.35Ω,R_{GEN}=3Ω		6		ns
Turn-on rise time	t_r			13		
Turn-off delay time	$t_{d(off)}$			52		
Turn-off fall time	t_f			16		
Source-Drain Diode characteristics						

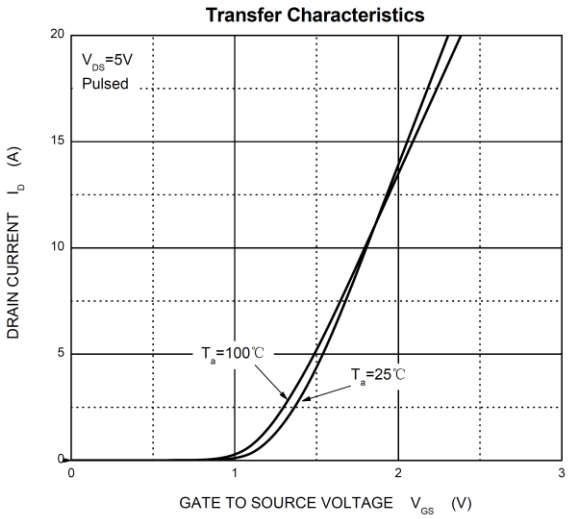
Notes :

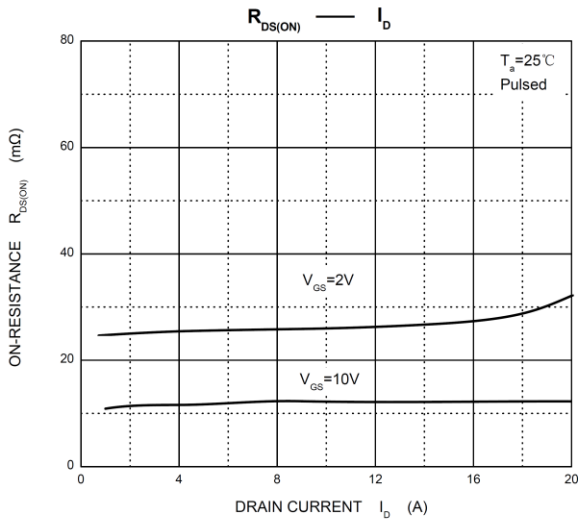
1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.

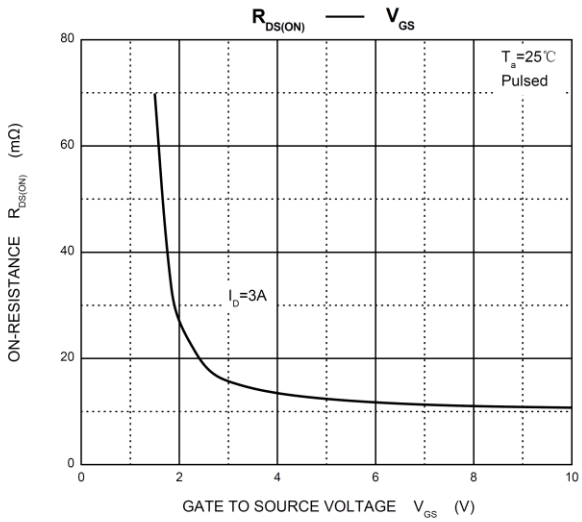
2. Guaranteed by design, not subject to production testing.

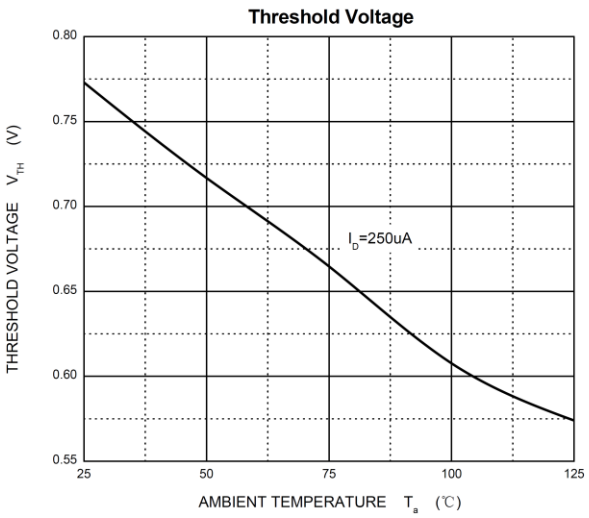
Typical Electrical and Thermal Characteristics

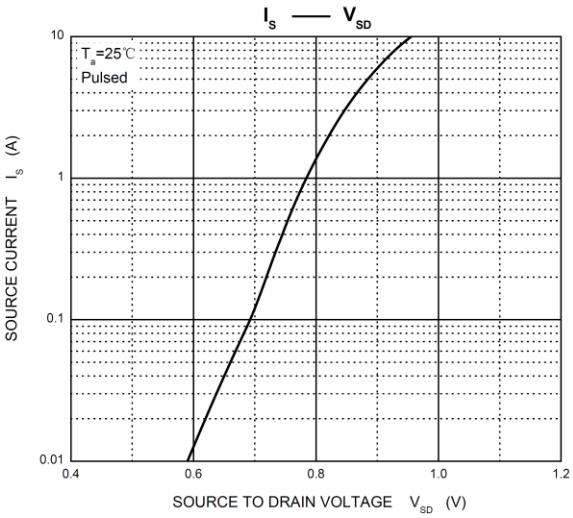




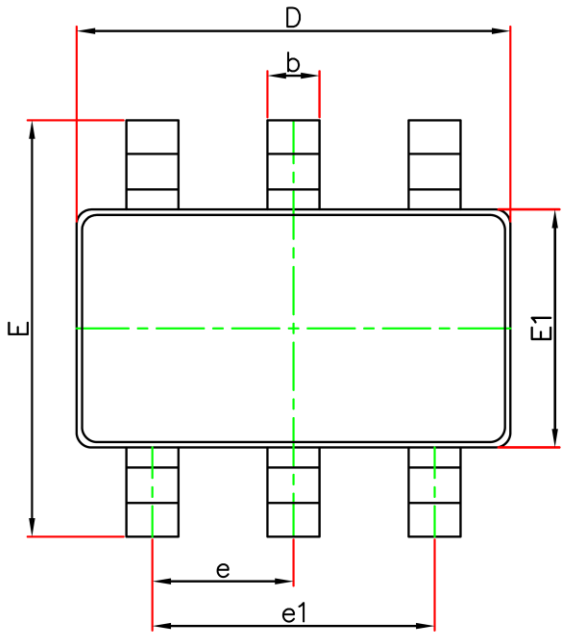


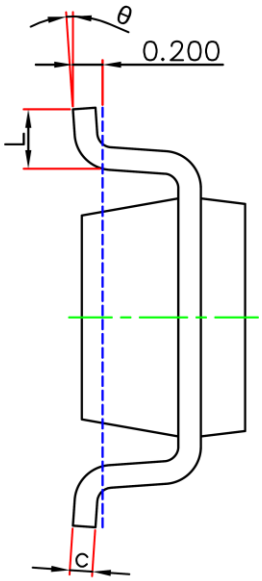


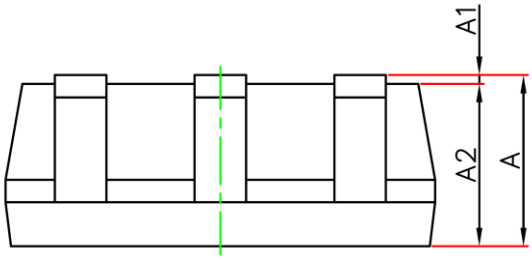




SOT-23-6L Package Information



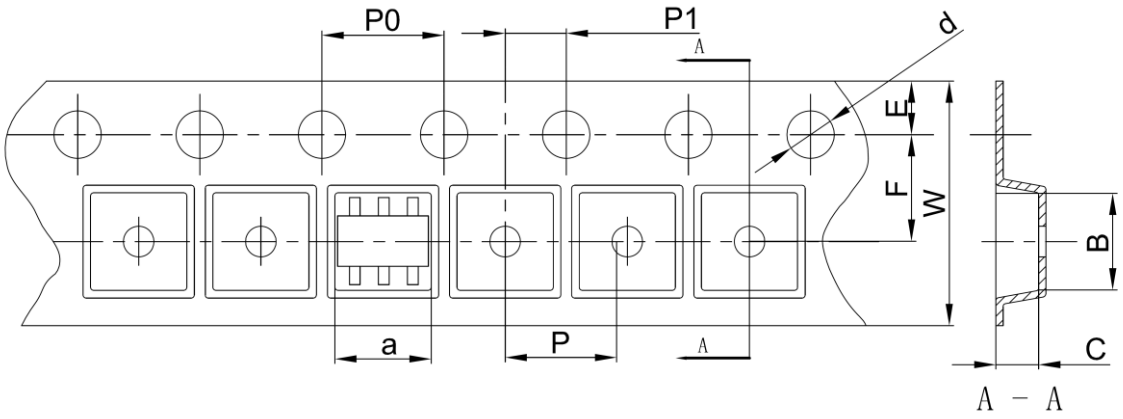




Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

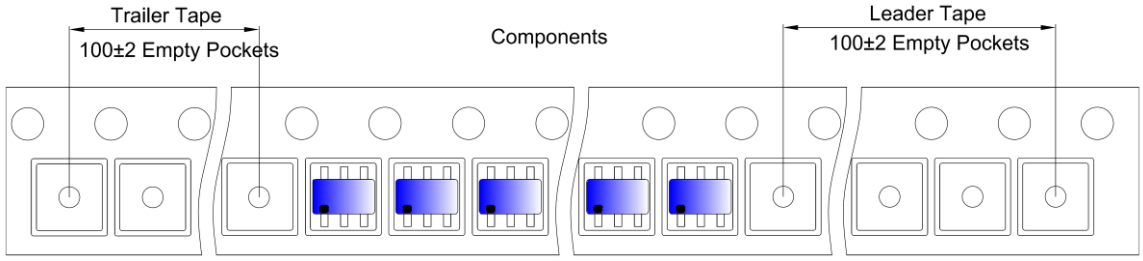
SOT-23-6L Tape and Reel

SOT-23-6L Embossed Carrier Tape

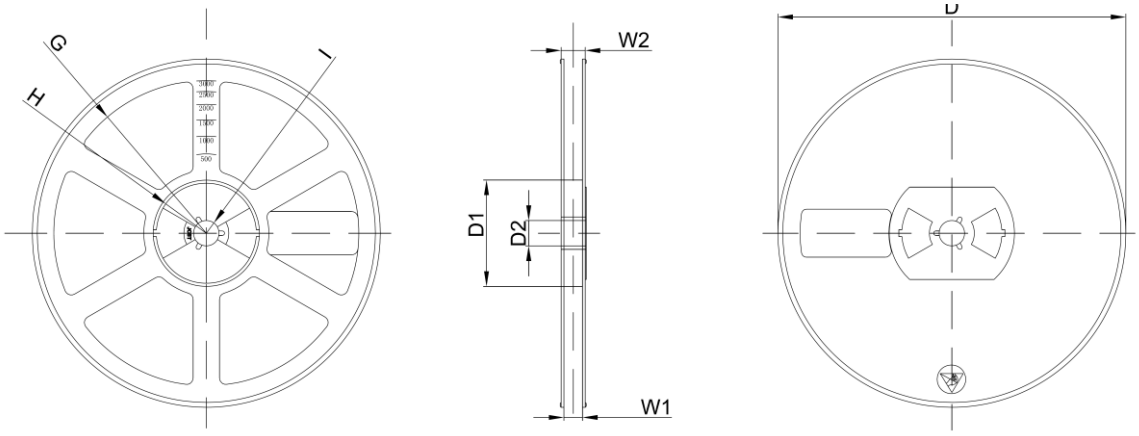


Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
SOT-23-6L	3.17	3.23	1.37	Φ1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23-6L Tape Leader and Trailer



SOT-23-6L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7``Dia	Φ180.00	60.00	13.00	R78.00	R25.60	R6.50	9.50	12.30

Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000pcs	7 inch	30,000pcs	203×203×195	120,000pcs	438×438×220	