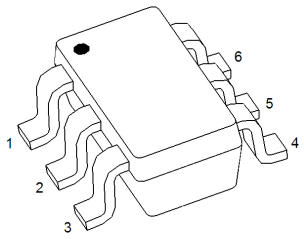
GP6802L

30V Dual N-Channel MOSFET

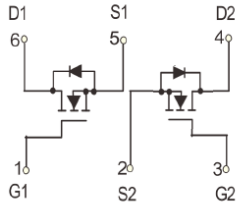
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	34mΩ@10V	3.5A
	52mΩ@4.5V	

SOT-23-6L



Schematic diagram



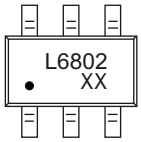
Feature

- High power and current handing capability
- Surface mount package

Application

- Battery protection
- Load switch
- Power management

MARKING:



L6802 = Device Code

XX = Date Code

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

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current[1,2]	T_A = 25°C	I_D	3.5	A
	T_A = 85°C		2.8	
	T_A = 125°C		1.6	
Pulsed Drain Current		I_{DM}	14	A
Power Dissipation		P_D	1.9	W
Thermal Resistance from Junction to Ambient[1]		$R_{\theta JA}$	65	℃/W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~ +150	°C

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

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 30V, V_{GS} = 0V			1	μA
Gate-body Leakage Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V			±100	nA
On Characteristics[3]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	1	1.8	3	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 10V, I_D = 3.5A		34	45	mΩ
		V_{GS} = 4.5V, I_D = 2A		52	70	
Forward Transconductance	g_{FS}	V_{DS} = 5V, I_D = 3.5A		4		S
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} = 15V, V_{GS} = 0V, f = 1MHz		227		pF
Output Capacitance	C_{oss}			46		
Reverse Transfer Capacitance	C_{rss}			38		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS} = 15V,I_D = 3.5A, V_{GS} = 10V		4.5		nC
Gate-Source Charge	Q_{gs}			0.95		
Gate-Drain Charge	Q_{gd}			0.75		
Turn-On Delay Time	$t_{d(on)}$	V_{DS} = 15V, R_L = 4.2Ω, V_{GS} = 10V, R_{GEN} = 3Ω		5		ns
Turn-On Rise Time	t_r			2		
Turn-Off Delay Time	$t_{d(off)}$			21		
Turn-Off Fall Time	t_f			18		
Diode Characteristics						
Diode Forward Voltage[3]	V_{SD}	V_{GS} = 0V , I_S = 3.5A			1.2	V

Notes :

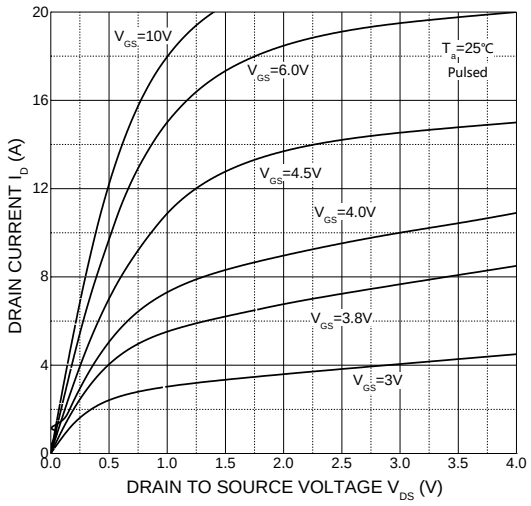
1.$R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR4 board with 1oz. single side copper, in a still air environment with T_A = 25°C.

2.$R_{\theta JA}$ is measured in the steady state

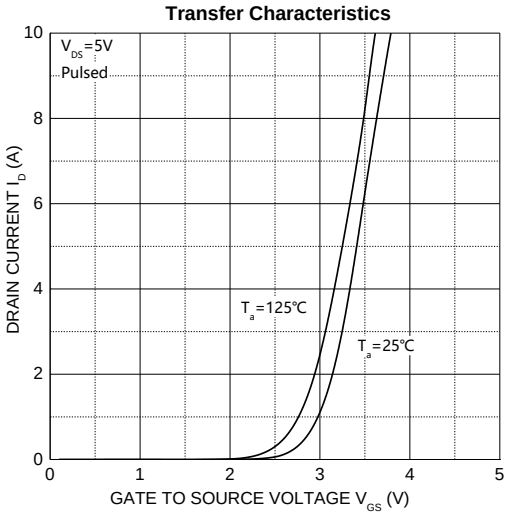
3.Pulse test : Pulse width ≤ 380μs, duty cycle ≤ 2%.

Typical Characteristics

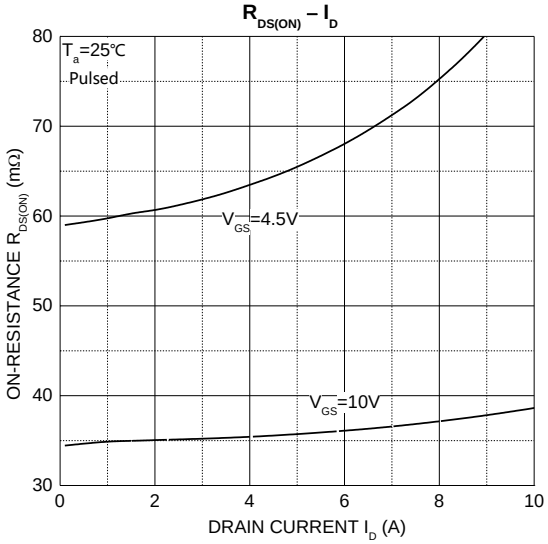
Output Characteristics



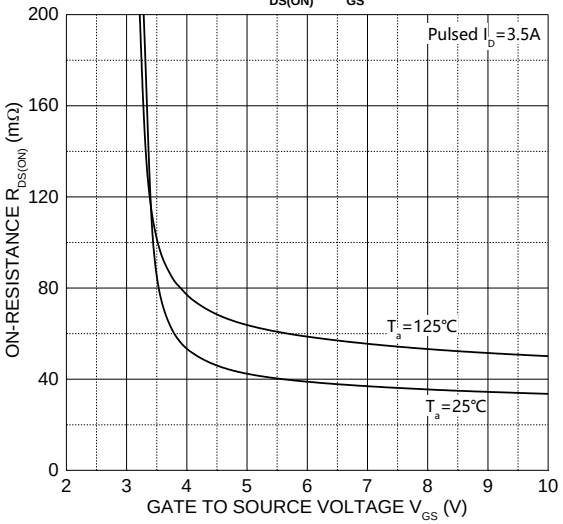
Transfer Characteristics



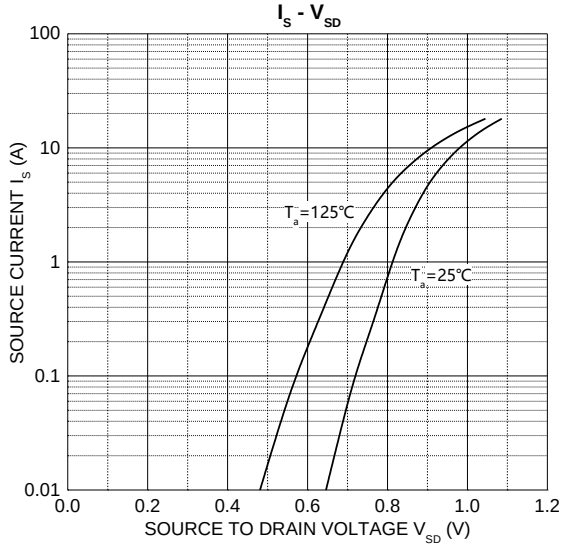
$R_{DS(ON)}$ – I_D



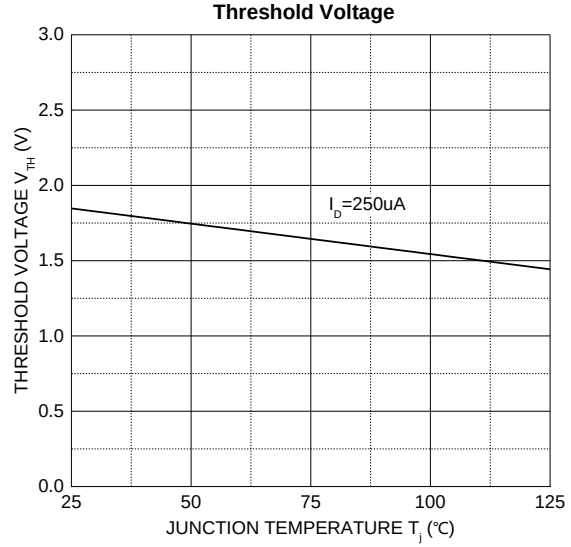
$R_{DS(ON)}$ - V_{GS}



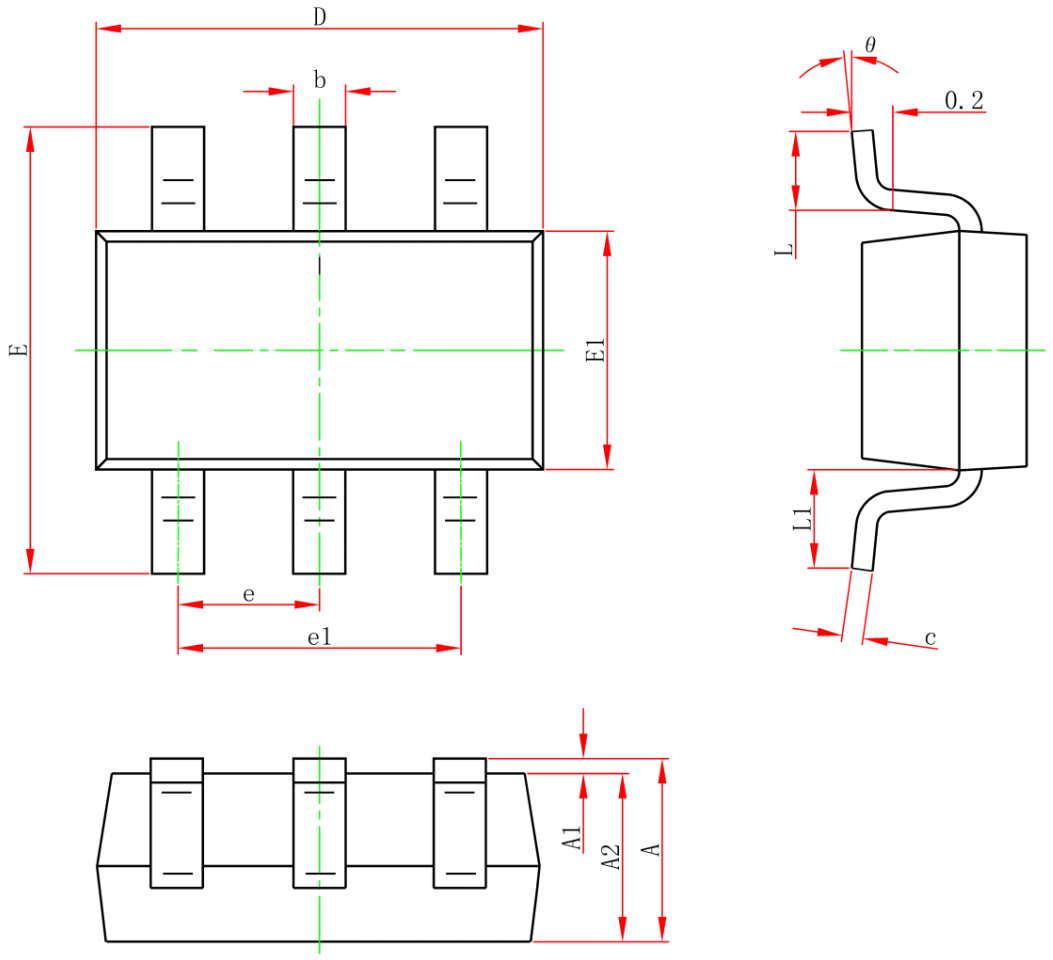
I_S - V_{SD}



Threshold Voltage



SOT-23-6L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.400	0.041	0.055
A1	0	0.150	0.000	0.006
A2	1.050	1.250	0.041	0.049
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
E	2.650	2.950	0.104	0.116
E1	1.500	1.700	0.059	0.067
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
L1	0.600REF		0.024REF	
θ	0°	8°	0°	8°

Attention：

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
- Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.
- GreenPower Electronics products belong to consumer electronics or other civilian electronic products.