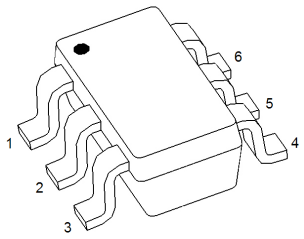
GP6802L

30V Dual N-Channel MOSFET

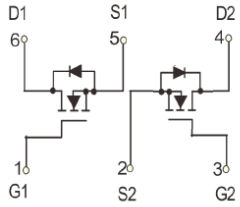
Product Summary

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

SOT-23-6L



Schematic diagram



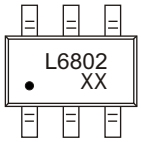
Feature

- 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]	I_D	3.5	A
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
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

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
Drainsource Onresistance	$R_{DS(on)}$	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 :

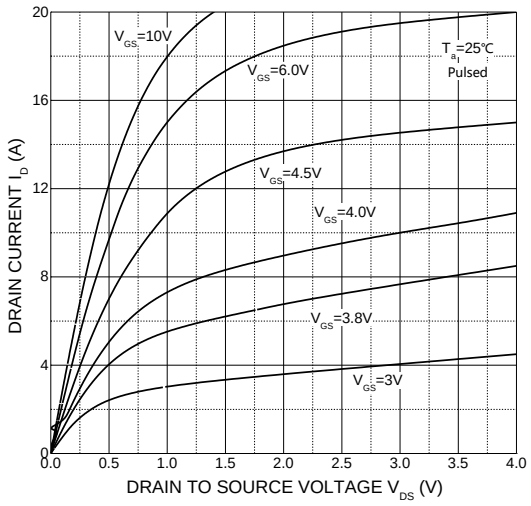
1.$R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR4 board with 1oz. single side copper, in a still air environment with T_A = 25°C.

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

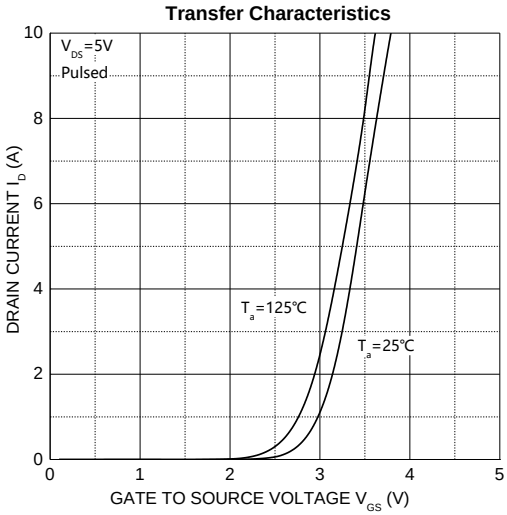
3.Pulse test : Pulse width ≤ 380μs, duty cycle ≤ 2%.

Typical Characteristics

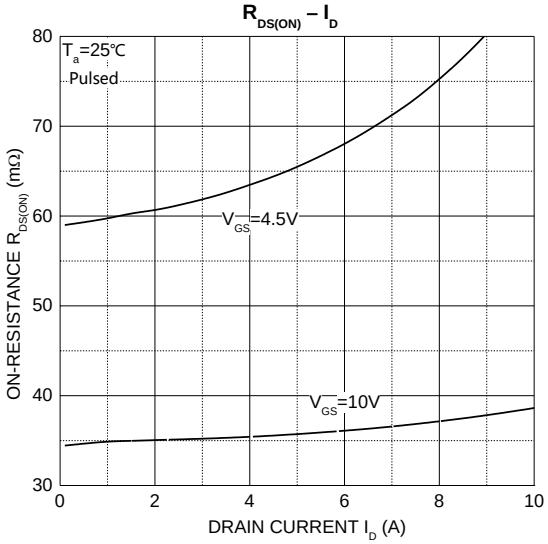
Output Characteristics



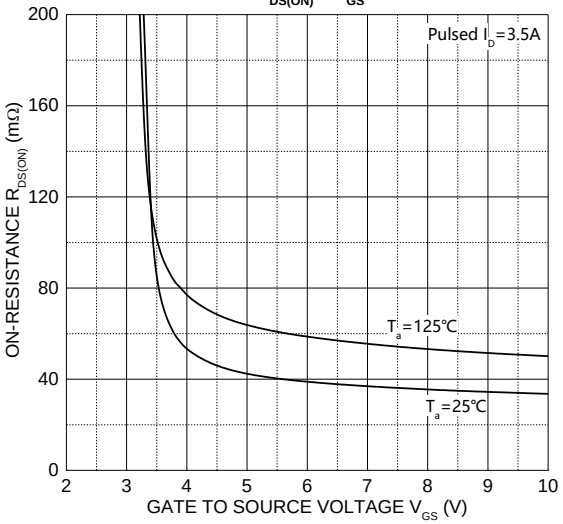
Transfer Characteristics



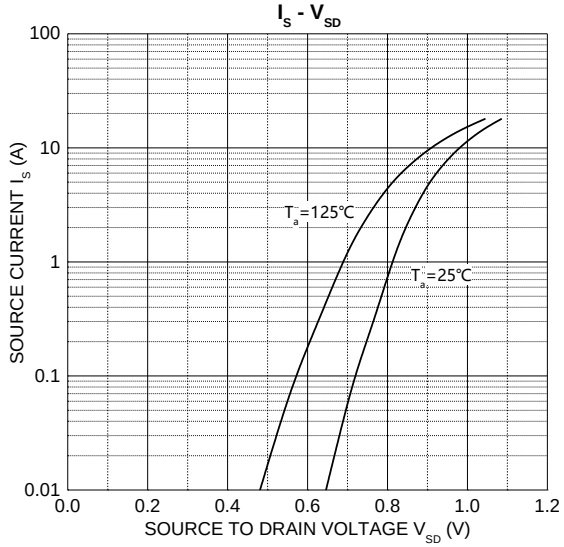
$R_{DS(ON)}$ – I_D



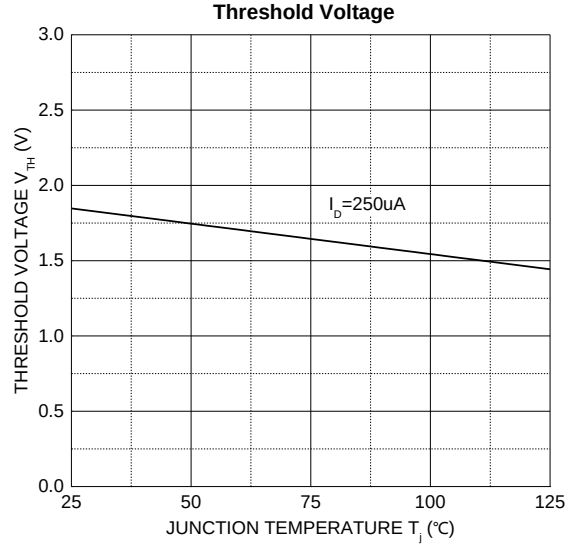
$R_{DS(ON)}$ - V_{GS}



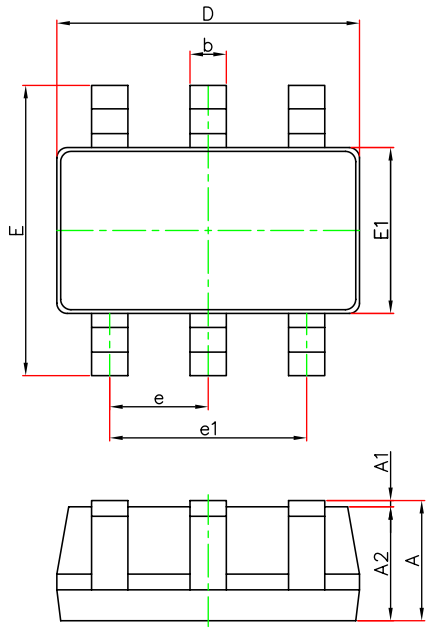
I_S - V_{SD}

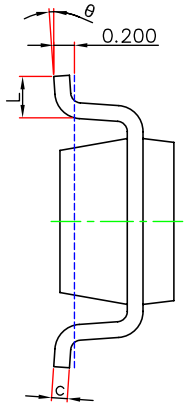


Threshold Voltage



SOT-23-6L Package Information





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	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°