Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	16mΩ@4.5V	7A
	20mΩ@2.5V	

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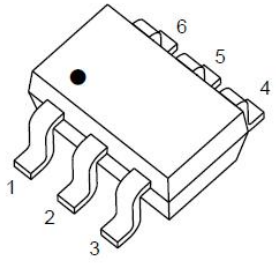
Feature

- High power and current handing capability
- Surface mount package
- ESD protected 2KV

Application

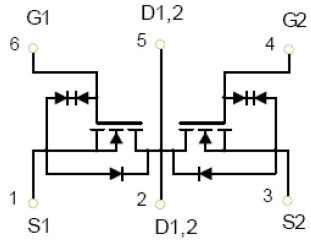
- Battery Switch
- DC/DC Converter

Package

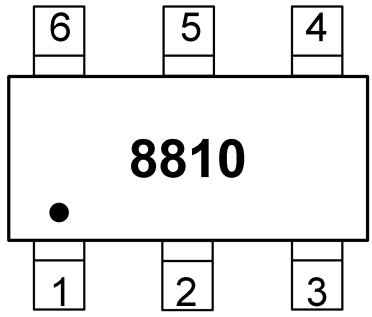


SOT-23-6L

Circuit diagram



Marking



8810 :Device Code

Order Information

Device	Package	Unit/Tape
SP8810DTS	SOT-23-6L	3000

Absolute maximum ratings (Ta=25℃, unless otherwise noted)

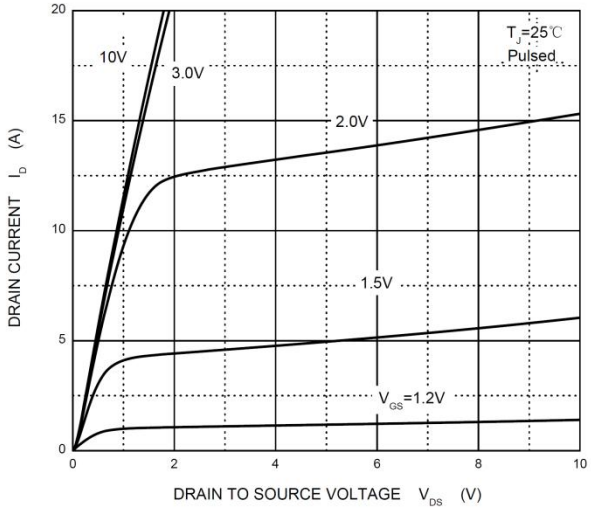
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	20	V
Gate-Source Voltage	V_{GSS}	±12	V
Continuous Drain Current	I_D	7	A
Pulse Drain Current Tested	I_{DM}	28	A
Power Dissipation	P_D	1.5	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	83.3	°C/W
Storage Temperature Range	T_{STG}	-55 to 150	°C
Operating Junction Temperature Range	T_J	-55 to 150	°C

Electrical characteristics (Ta=25℃, unless otherwise noted)

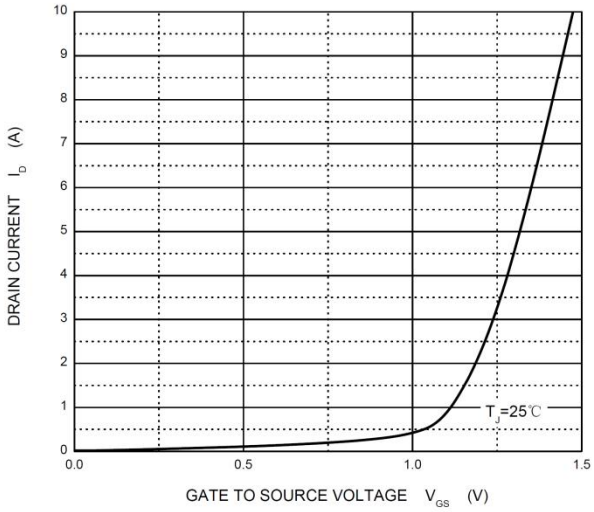
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	VGS=0V , ID=250μA	20	-	-	V
Drain-Source Leakage Current	I_{DSS}	VDS=16V , VGS=0V	-	-	1	uA
Gate-Source Leakage Current	I_{GSS}	VGS=±12V , VDS=0V	-	-	±10	uA
Gate Threshold Voltage	$V_{GS(th)}$	VDS=VGS , ID=250μA	0.4	0.65	1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	VGS=4.5V , ID =7A	-	16	22	mΩ
		VGS=2.5V , ID=6.5A	-	20	26	
Dynamic characteristics						
Input Capacitance	C_{iss}	VDS=15V , VGS=0V , f=1MHz	-	940	-	pF
Output Capacitance	C_{oss}		-	131	-	
Reverse Transfer Capacitance	C_{rss}		-	109	-	
Total Gate Charge	Q_g	VDS=15V , VGS=4.5V , ID=5A	-	9.6	-	nC
Gate-Source Charge	Q_{gs}		-	3.9	-	
Gate-Drain Charge	Q_{gd}		-	3.4	-	
Switching Characteristics						
Turn-On Delay Time	$t_{d(on)}$	VDD=15V VGS=10V , RG=1.5Ω , ID=5A	-	4.2	-	nS
Turn-On Rise Time	t_r		-	8.2	-	
Turn-Off Delay Time	$t_{d(off)}$		-	31	-	
Turn-Off Fall Time	t_f		-	4	-	
Source-Drain Diode characteristics						
Diode Forward Voltage	V_{SD}	VGS=0V , IS=1A , TJ=25℃	-	-	1.2	V

.

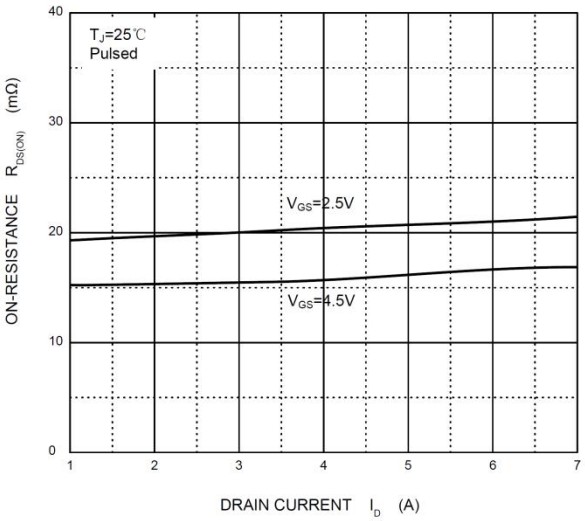
Typical Characteristics



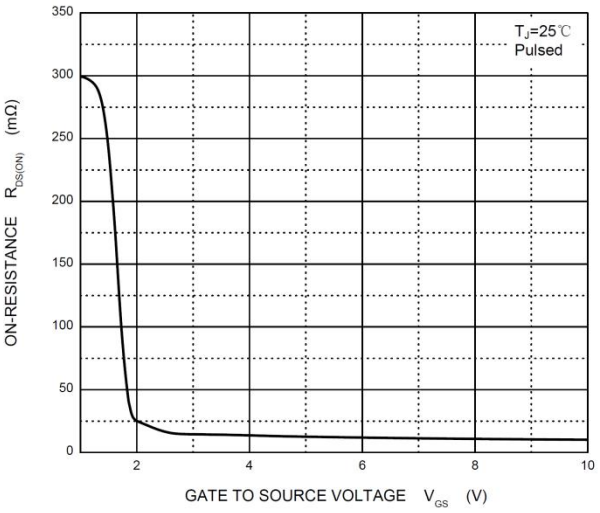
Output Characteristics



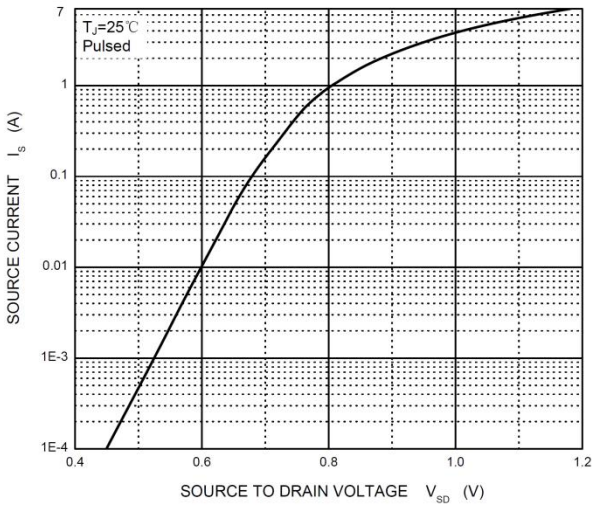
Transfer Characteristics



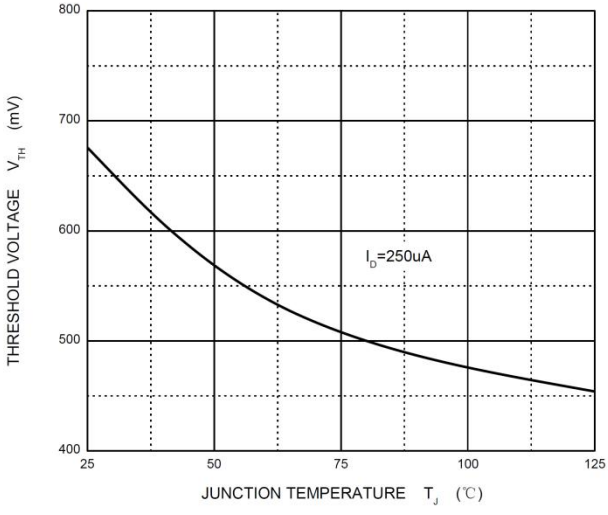
$R_{DS(ON)}$ — I_D



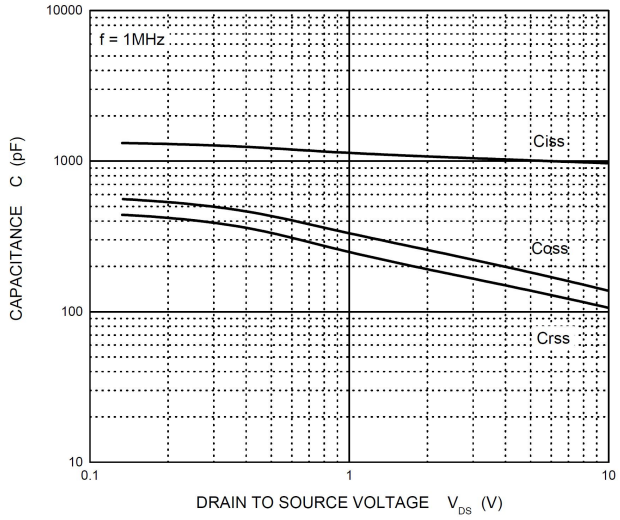
$R_{DS(ON)}$ — V_{GS}



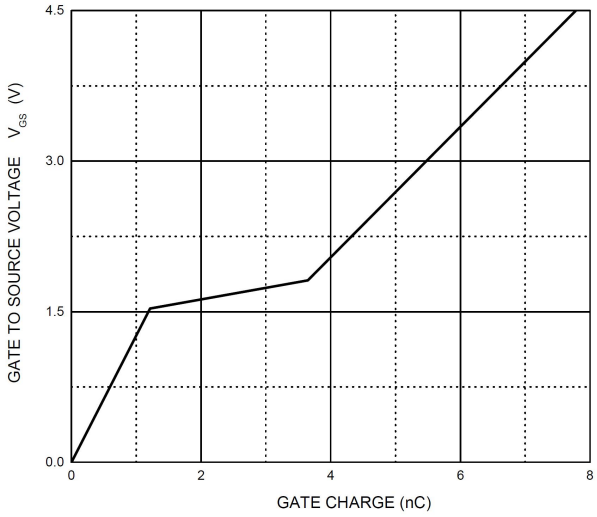
I_S — V_{SD}



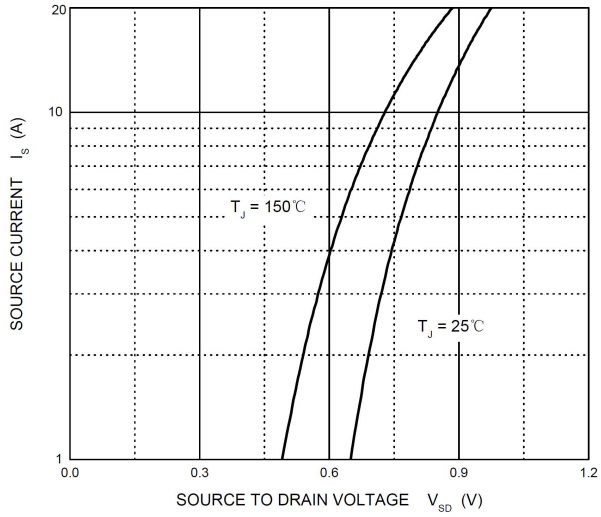
Threshold Voltage



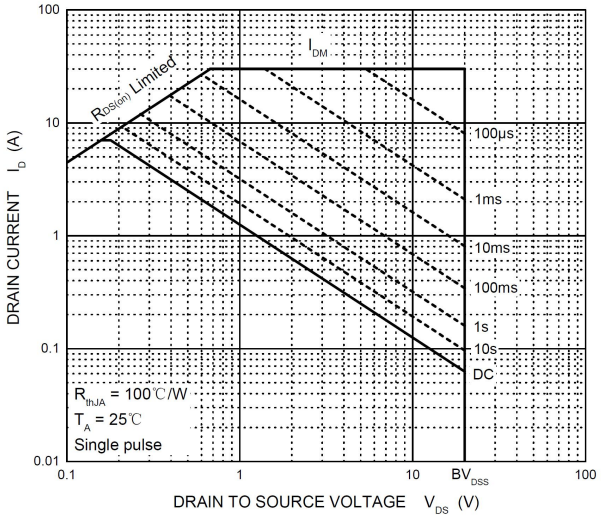
Typical Capacitances



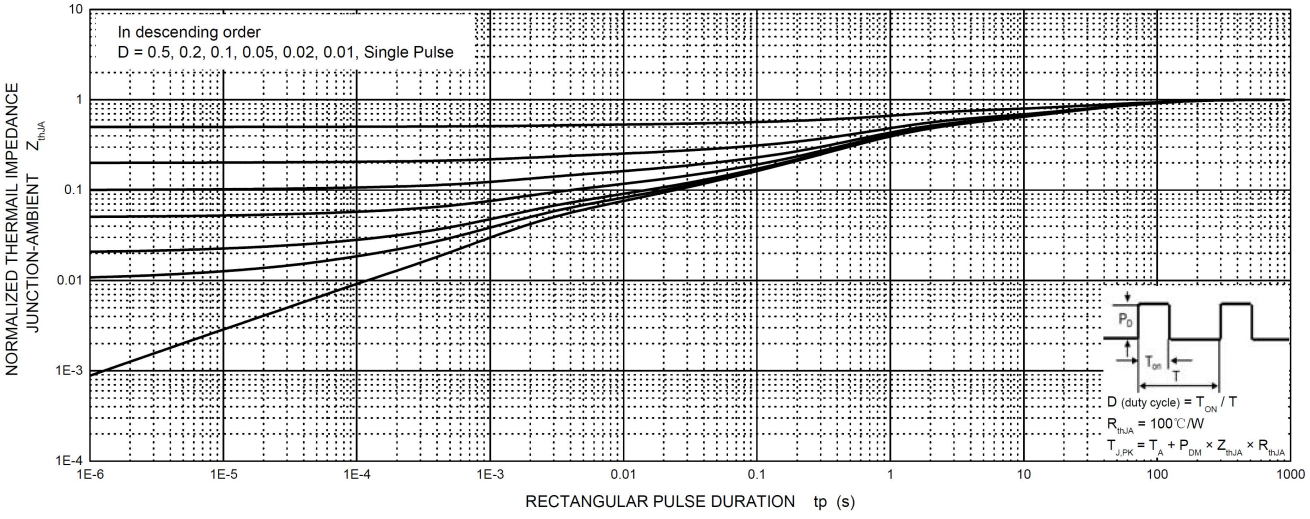
Gate Charge



Source-Drain Diode Forward Characteristics

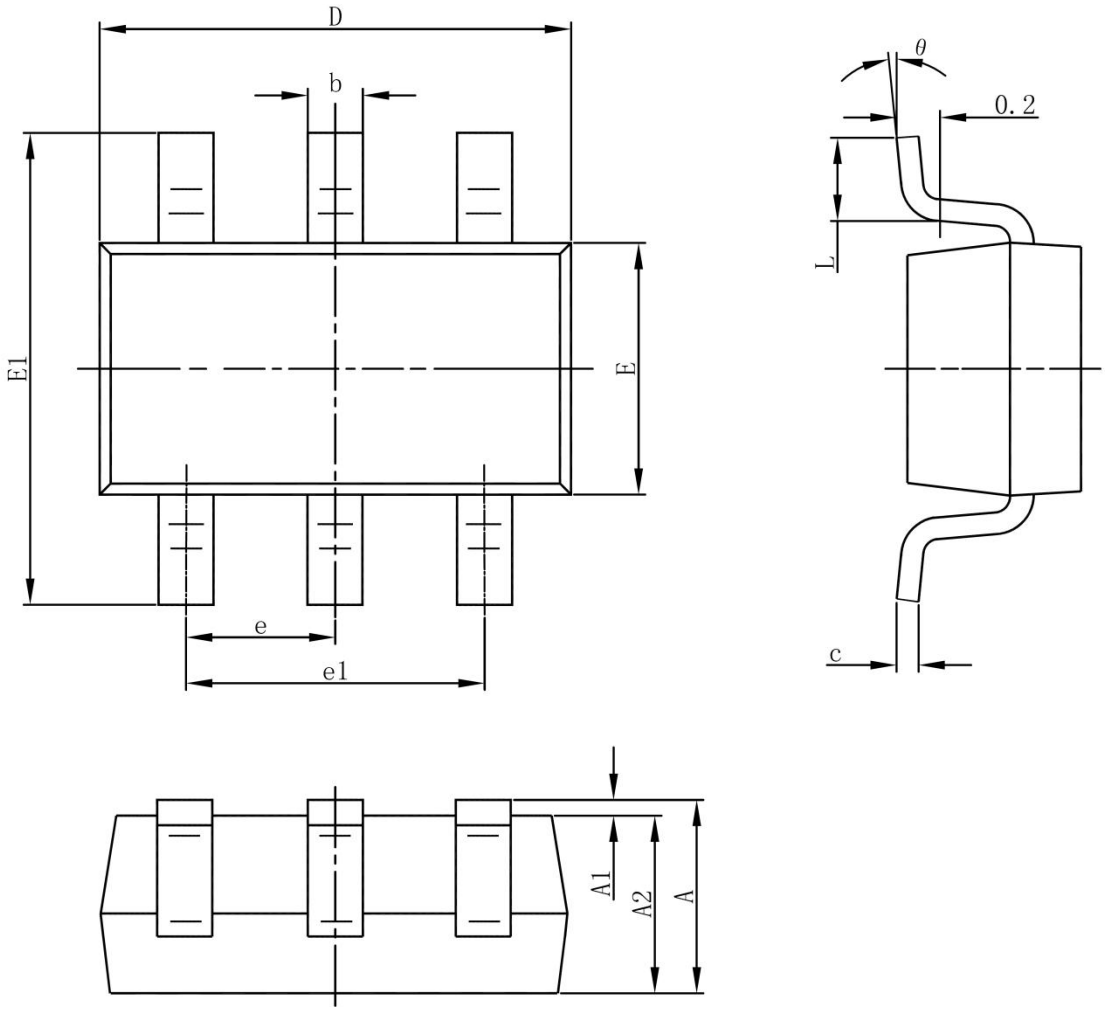


Maximum Safe Operating Area



Transient Thermal Impedance, Junction-Case

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
E	1.500	1.700	0.059	0.067
E1	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°

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