20V,4.8A
Dual N-Channel Mosfet

FEATURES

RDS(ON)≤ 21.5mΩ @VGS=4.5V

RDS(ON)≤ 27.5mΩ @VGS=2.5V

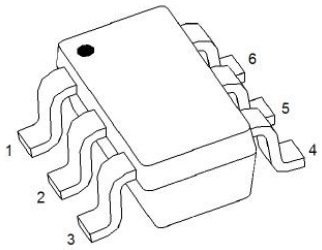
APPLICATIONS

Load Switch for Portable Devices

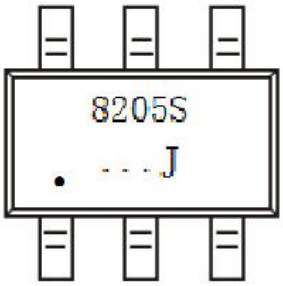
Battery Protection

Power Management

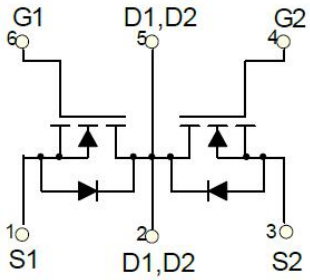
SOT-23-6L



MARKING



Dual N-CHANNEL MOSFET



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	
Continuous Drain Current	I_D	4.8	A
Pulsed Drain Current	I_{DM}	12	
Maximum Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient(t ≤5s)	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 ~+150	

MOSFET ELECTRICAL CHARACTERISTICS T_a=25 ℃ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20	21.6		V
Gate-source threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.5	0.72	1.0	
Gate-source leakage	I_{GSS}	V_{DS} =0V, V_{GS} =±12V			±100	nA
Zero gate voltage drain current	I_{DSS}	V_{DS} =19V, V_{GS} =0V			1	μA
Drain-source on-state resistance [a]	$R_{DS(on)}$	V_{GS} =4.5V, I_D =4.8A		19.8	21.5	mΩ
		V_{GS} =2.5V, I_D =4A		24	27.5	
Body diode voltage	V_{SD}	I_S=1.7A		0.8	1.2	V
Dynamic[b]						
Input capacitance	C_{iss}	V_{DS} =8V,V_{GS} =0V,f =1MHz		600		pF
Output capacitance	C_{oss}			330		
Reverse transfer capacitance	C_{rss}			140		
Total gate charge	Q_g	V_{DS} =10V,V_{GS} =4.5V,I_D =4A		11		nC
Gate-source charge	Q_{gs}			2.3		
Gate-drain charge	Q_{gd}			2.5		
Turn-on delay time	$t_{d(on)}$	V_{DD}=10V,I_D =1A, V_{GS}=4V,R_{GEN}=10Ω		18		nS
Rise time	t_r			5		
Turn-off delay time	$t_{d(off)}$			43		
Fall time	t_f			20		

Notes :

a. Pulse Test : Pulse Width < 300μs, Duty Cycle ≤2%.

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

N-Channel 20V (D-S) MOSFET Typical Characteristics

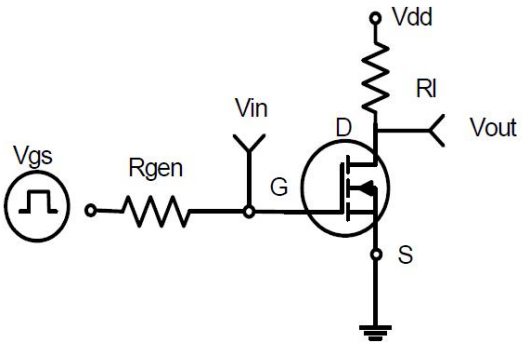


Figure 1:Switching Test Circuit

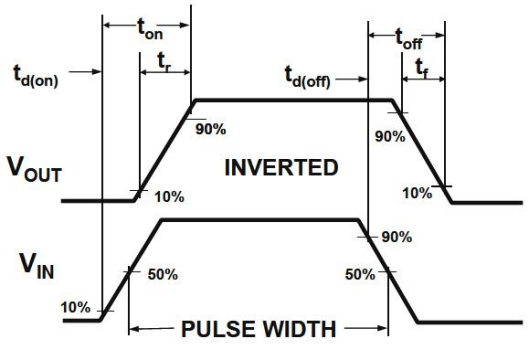


Figure 2:Switching Waveforms

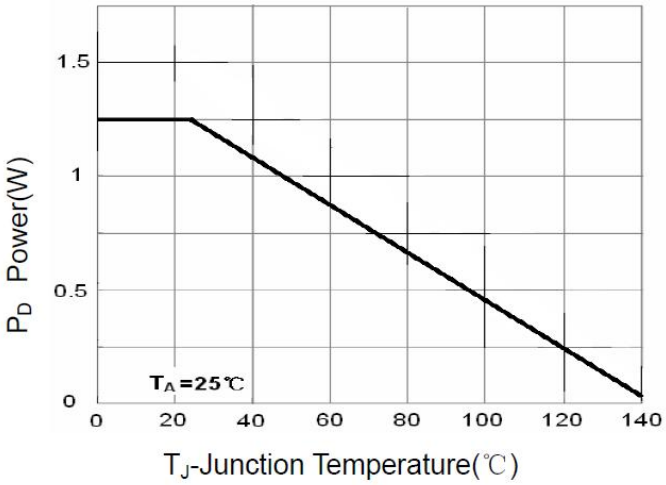


Figure 3 Power Dissipation

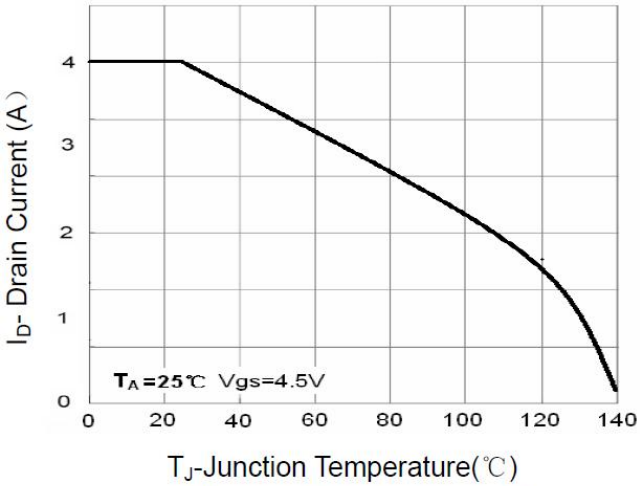


Figure 4 Drain Current

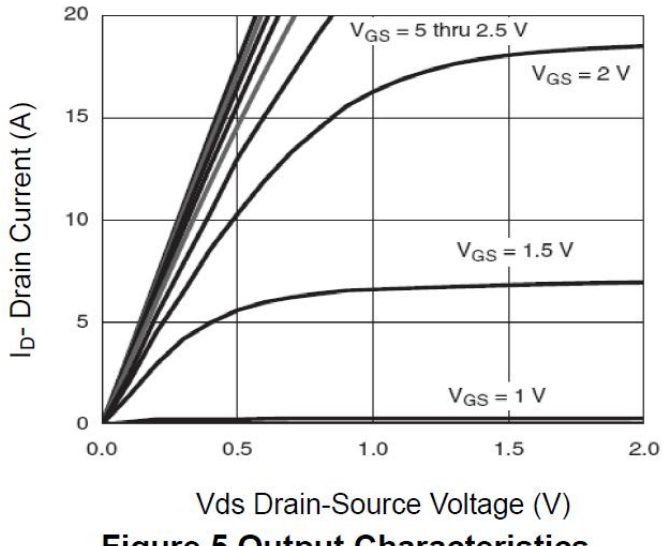


Figure 5 Output Characteristics

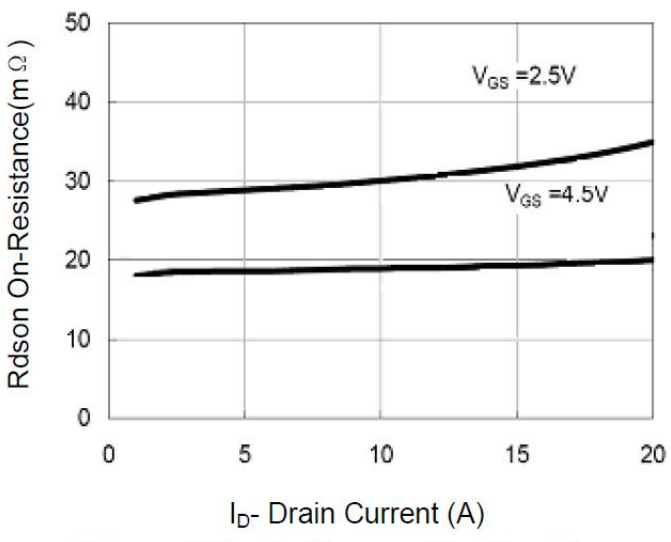


Figure 6 Drain-Source On-Resistance

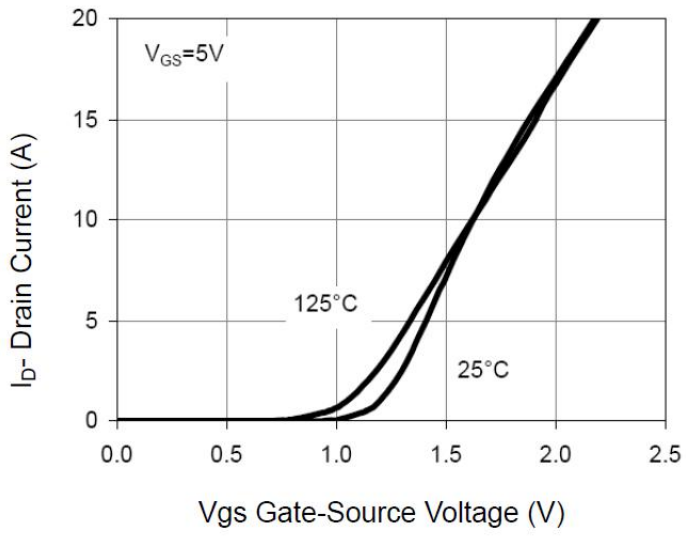


Figure 7 Transfer Characteristics

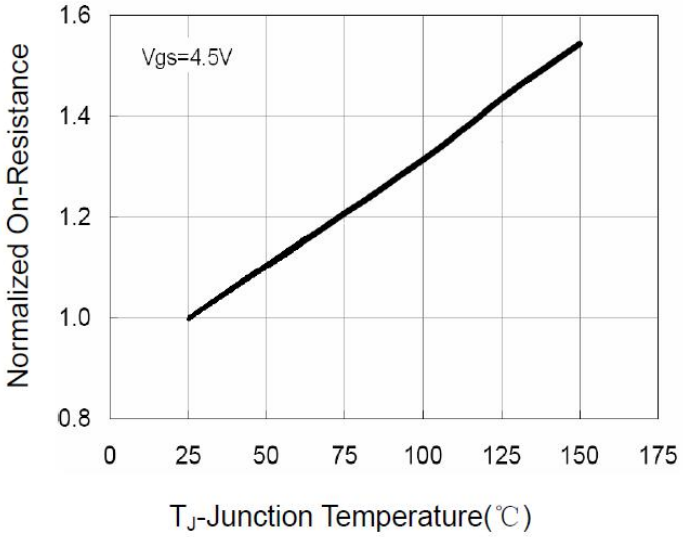


Figure 8 Drain-Source On-Resistance

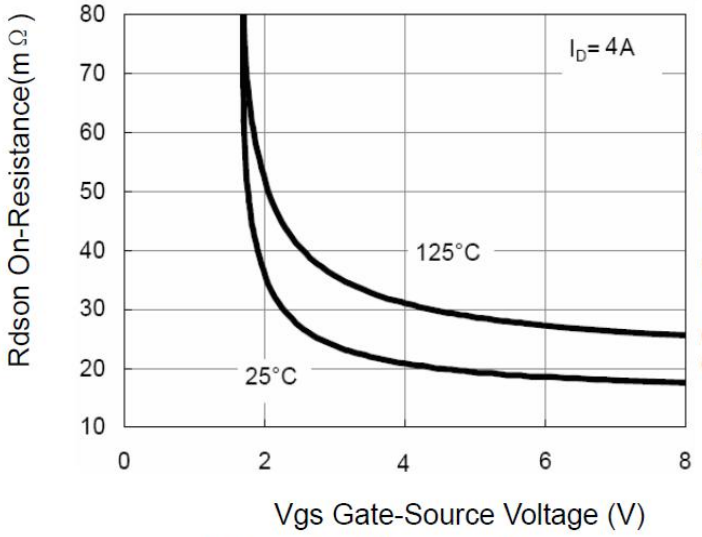


Figure 9 Rdson vs Vgs

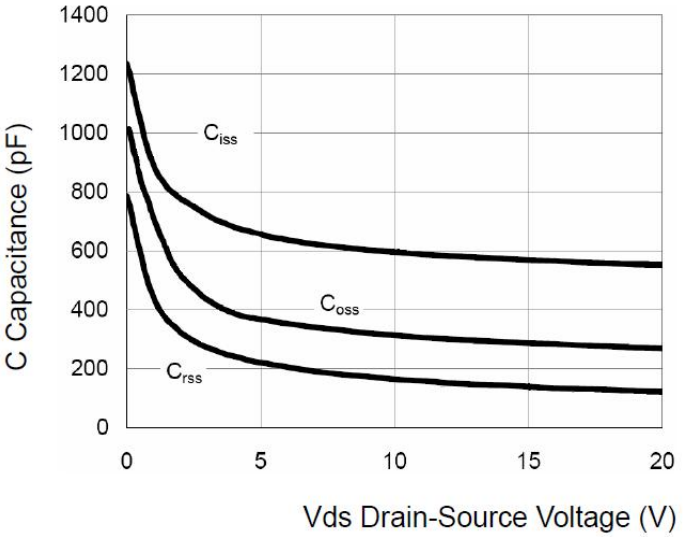


Figure 10 Capacitance vs Vds

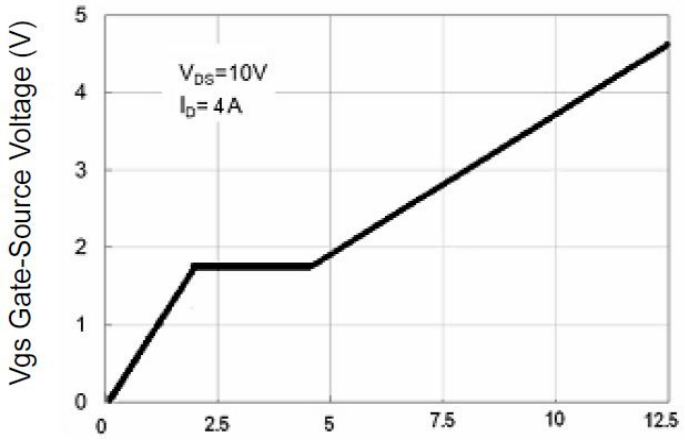
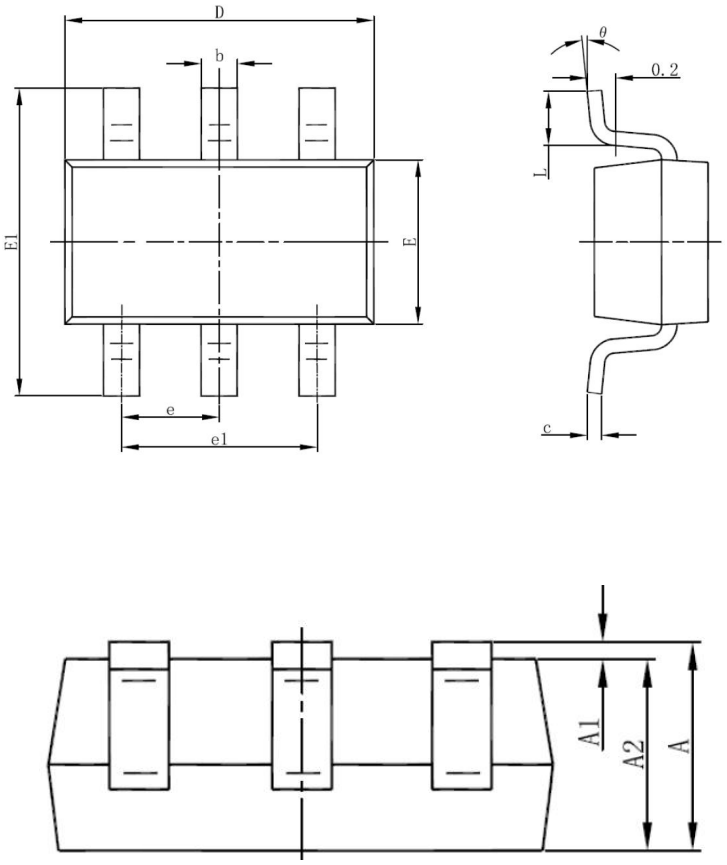


Figure 11 Gate Charge

SOT-23-6L package



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°