

**20V,4.8A
Dual N-Channel Mosfet**

FEATURES

$R_{DS(ON)} \leq 21.5m\Omega @V_{GS}=4.5V$

$R_{DS(ON)} \leq 27.5m\Omega @V_{GS}=2.5V$

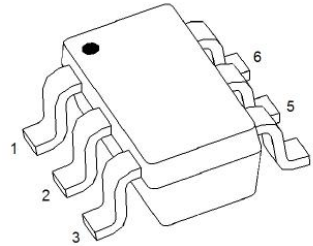
APPLICATIONS

Load Switch for Portable Devices

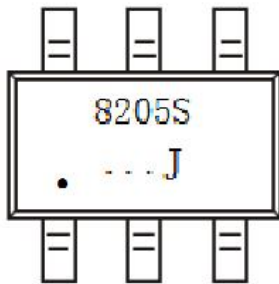
Battery Protection

Power Management

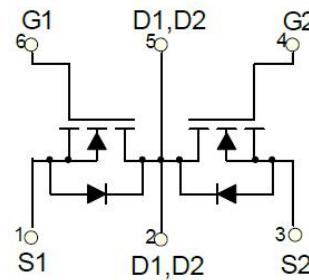
SOT-23-6L



MARKING



Dual N-CHANNEL MOSFET



Maximum ratings ($T_a=25^{\circ}C$ 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($t \leq 5s$)	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{stg}	-55 ~ +150	

MOSFET ELECTRICAL CHARACTERISTICS $T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20	21.6		V
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.72	1.0	
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 12V$			± 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	m Ω
		$V_{GS} = 2.5V, I_D = 4A$		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	$t_{d(on)}$	$V_{DD} = 10V, I_D = 1A,$ $V_{GS} = 4V, R_{GEN} = 10\Omega$		18		nS
Rise time	t_r			5		
Turn-off delay time	$t_{d(off)}$			43		
Fall time	t_f			20		

Notes :

- Pulse Test : Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.
- Guaranteed by design, not subject to production testing.

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

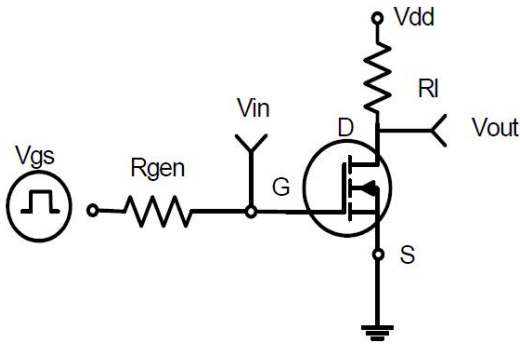


Figure 1: Switching Test Circuit

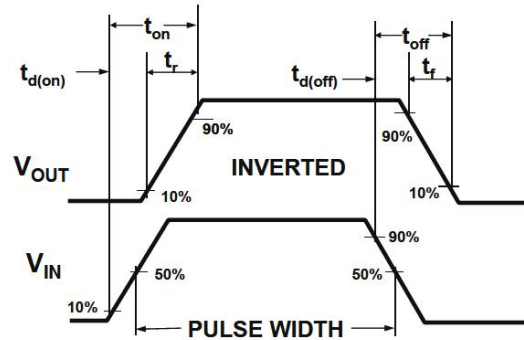


Figure 2: Switching Waveforms

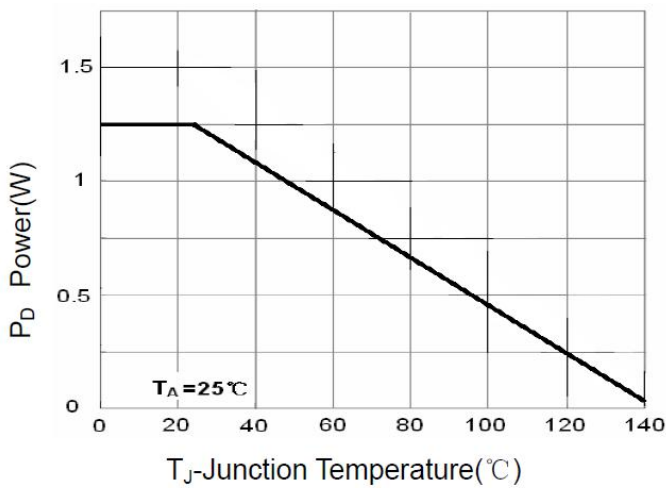


Figure 3 Power Dissipation

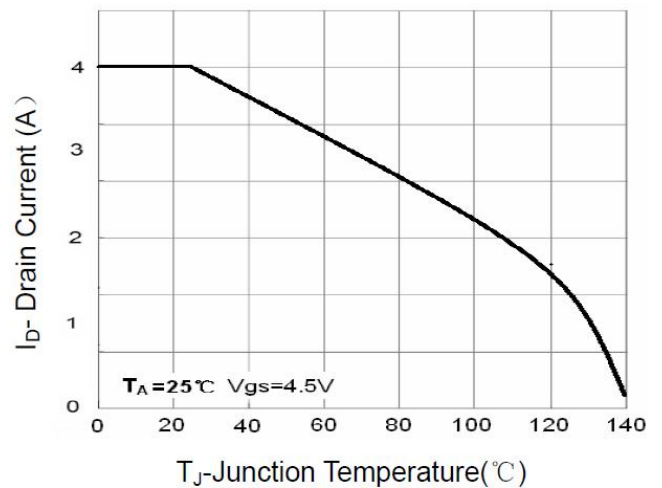


Figure 4 Drain Current

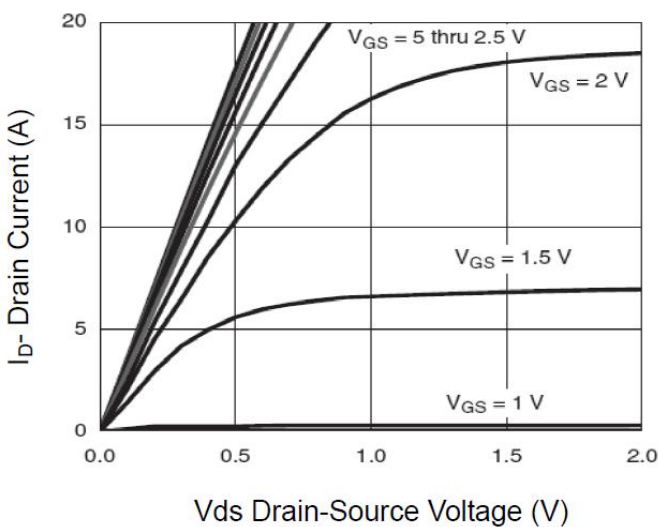


Figure 5 Output Characteristics

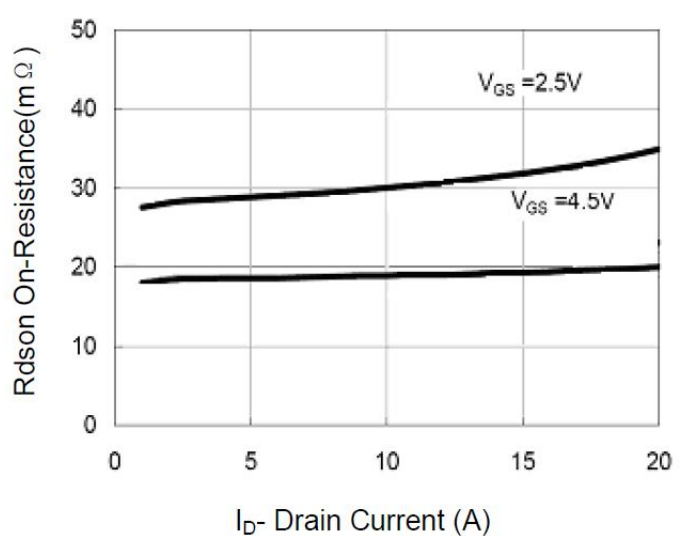


Figure 6 Drain-Source On-Resistance

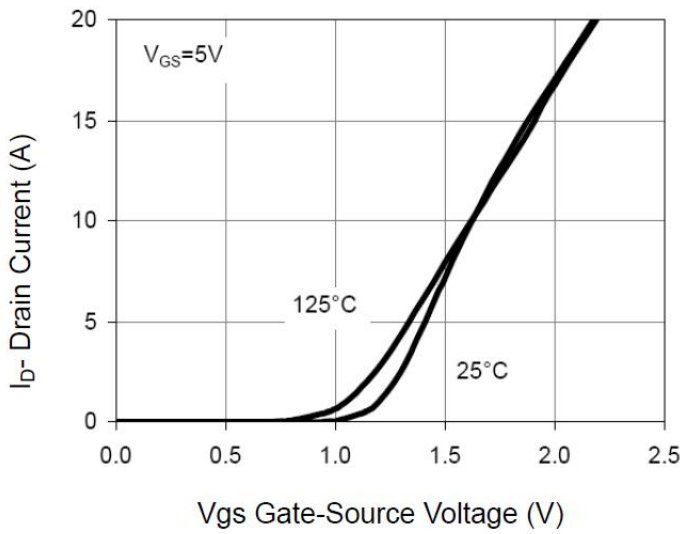


Figure 7 Transfer Characteristics

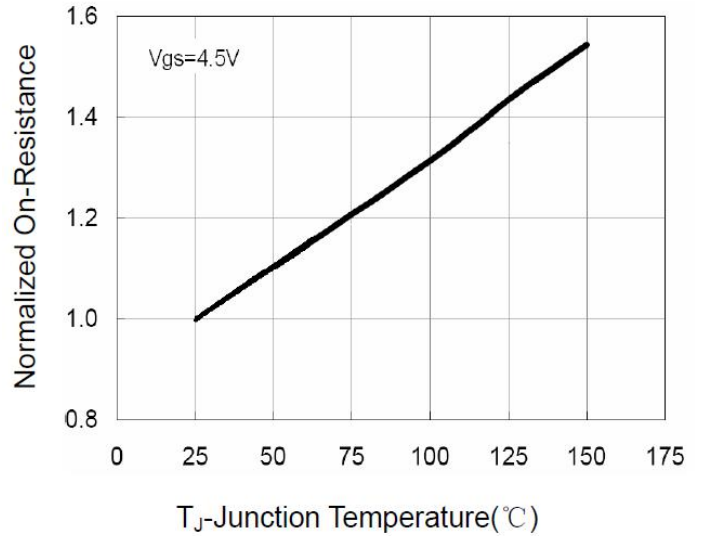


Figure 8 Drain-Source On-Resistance

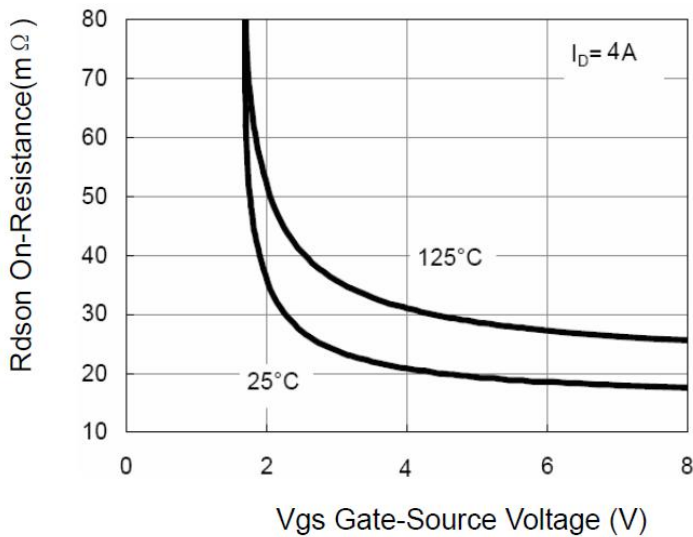


Figure 9 Rdson vs Vgs

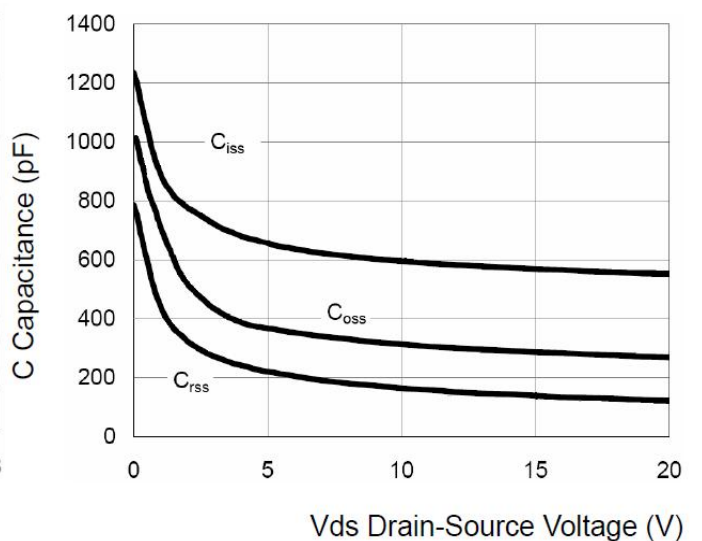


Figure 10 Capacitance vs Vds

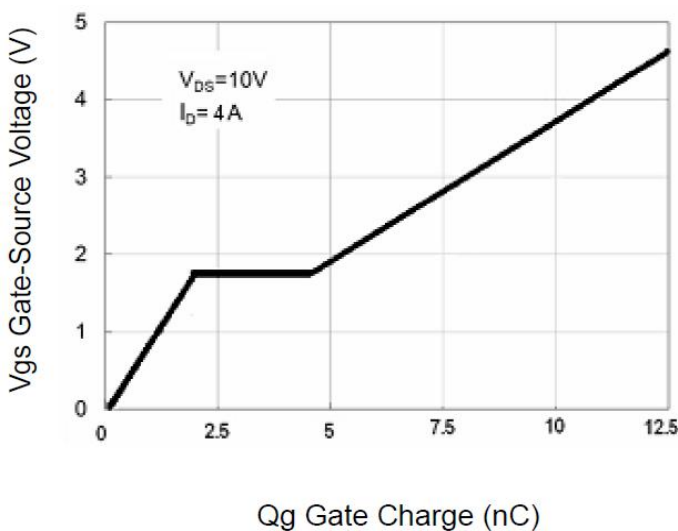
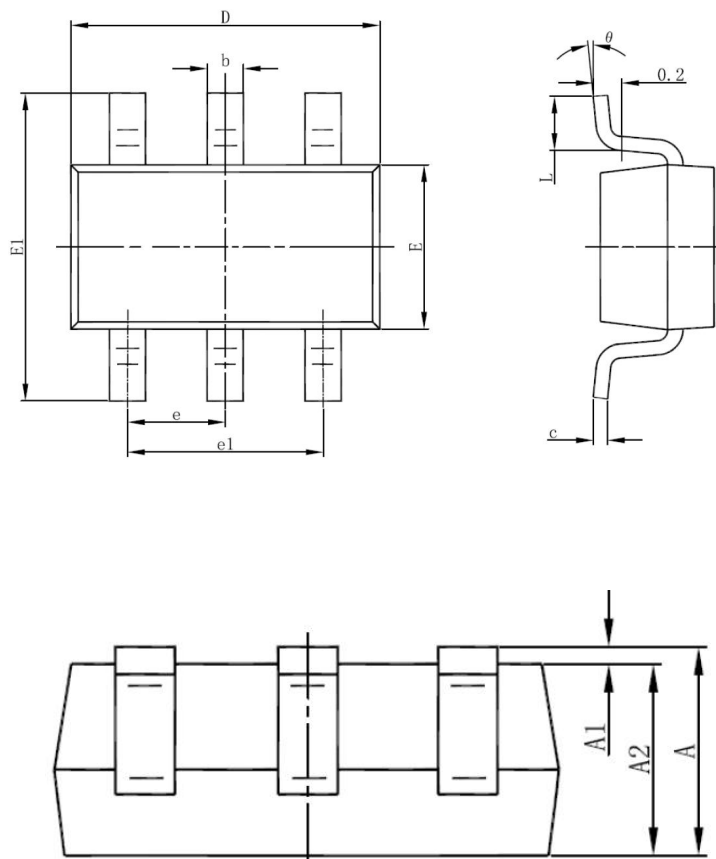


Figure 11 Gate Charge

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°

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