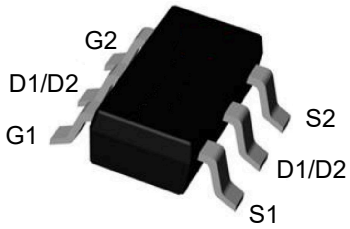
WG8205

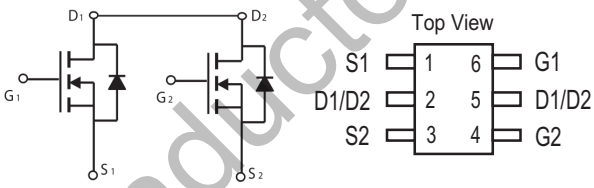
Features:

- ☐ Low Intrinsic Capacitances.
- ☐ Excellent Switching Characteristics.
- ☐ Extended Safe Operating Area.
- ☐ Unrivalled Gate Charge :Qg= 11nC (Typ.).
- ☐ BVDSS=20V,ID=6A
- ☐ RDS(on) : 25mΩ (Max) @VG=4.5V
- ☐ 100% Avalanche Tested

SOT-23-6L

RoHS COMPLIANT





Circuit diagram Marking:8205

WildGoose Semiconductor

Absolute maximum ratings (Ta=25C° unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	6	A
Pulsed Drain Current	I_{DM}	25	A
Power Dissipation	P_D	1.5	W
Junction Temperature	T_J	-55 ~ +150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =20V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.5		1.2	V
Drain-source on-resistance[1)]	$R_{DS(on)}$	V_{GS} =4.5V, I_D =6.0A		18	25	mΩ
		V_{GS} =2.5V, I_D =5.0A		23	32	
Forward transconductance[1)]	g_{FS}	V_{DS} =5V, I_D =7A	9			S
Dynamic characteristics[2)]						
Input Capacitance	C_{iss}	V_{DS} =8V,V_{GS} =0V,f =1MHz		800		pF
Output Capacitance	C_{oss}			155		
Reverse Transfer Capacitance	C_{rss}			125		
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,V_{GS}=4V, I_D =1A,,R_{GEN}=10Ω		13		nS
Turn-on rise time	t_r			54		
Turn-off delay time	$t_{d(off)}$			18		
Turn-off fall time	t_f			11		
Source-Drain Diode characteristics						
Diode Forward voltage	V_{DS}	V_{GS} =0V, I_S=4.0A			1.2	V

Notes:

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

2) Guaranteed by design, not subject to production testing.

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Typical Characteristics

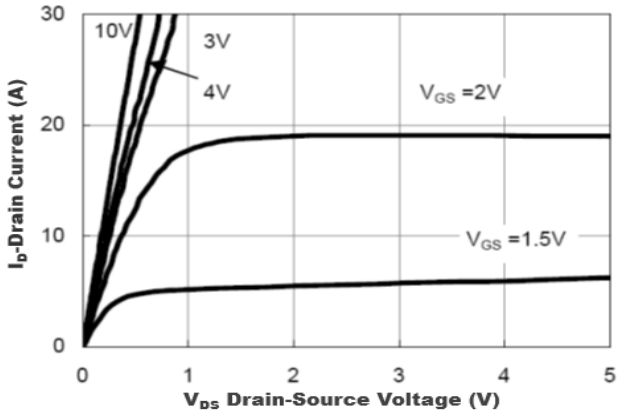


Figure1. Output Characteristics

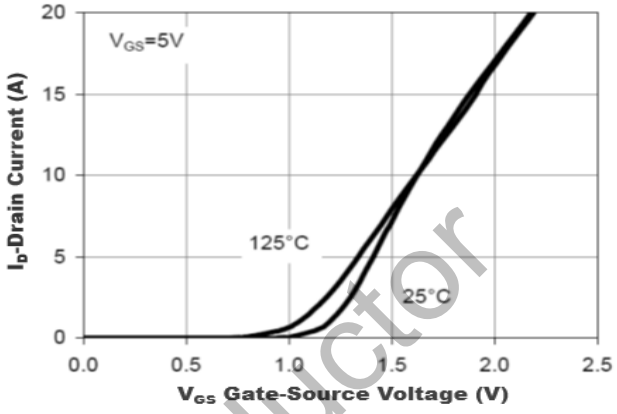


Figure2. Transfer Characteristics

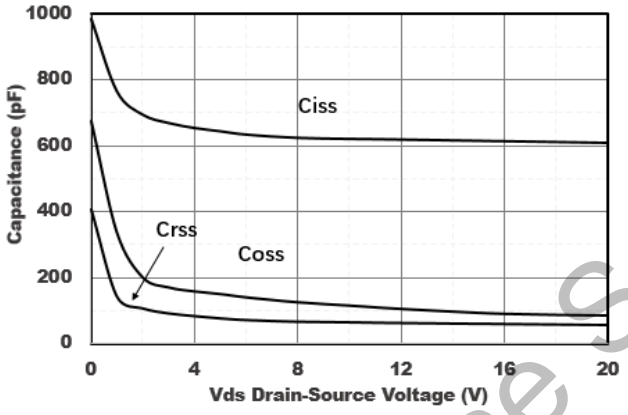


Figure3. Capacitance Characteristics

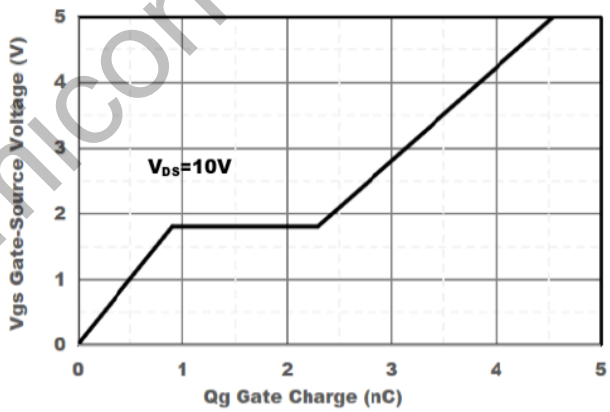


Figure4. Gate Charge

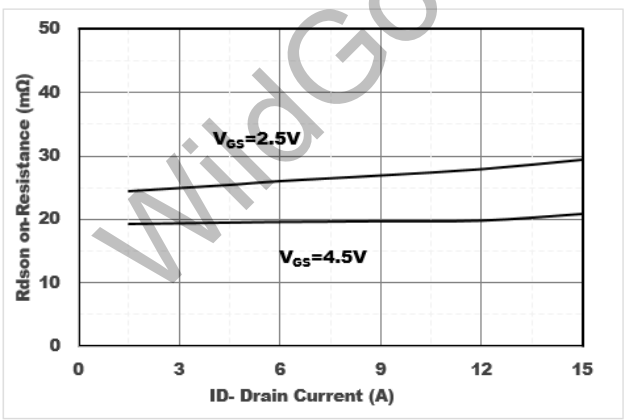


Figure5. Drain-Source on Resistance

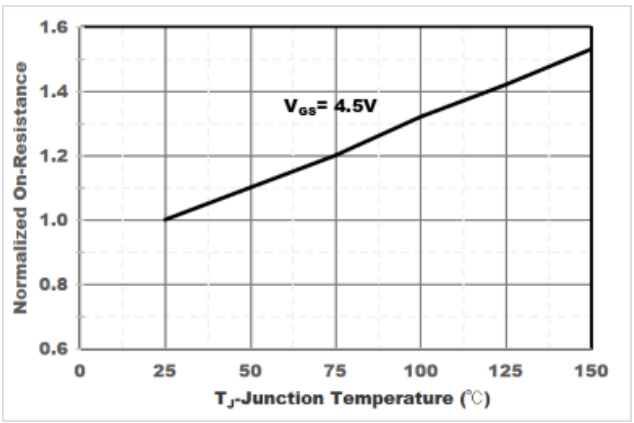


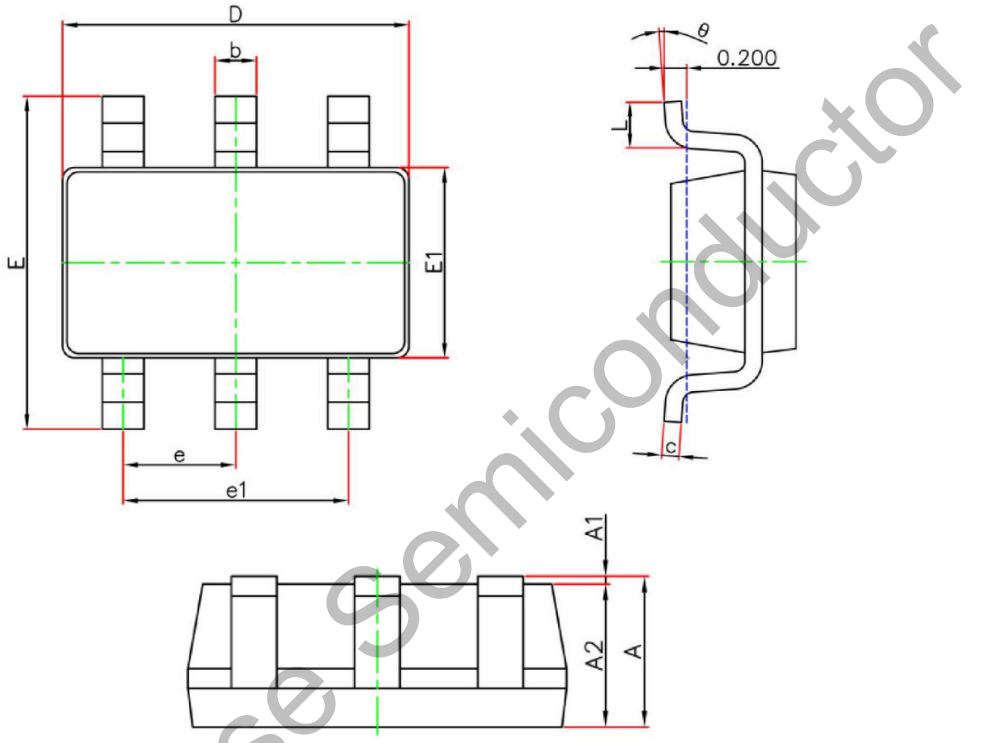
Figure6. Drain-Source on Resistance

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Package Dimension

SOT-23-6L

Unit: mm



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	2.650	2.950	0.104	0.116
E1	1.500	1.700	0.059	0.067
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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