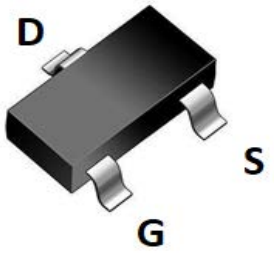
WG3410L

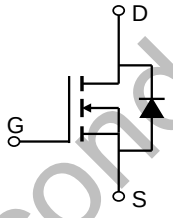
Features:

- ☐ Advanced Trench Technology.
- ☐ Excellent Switching Characteristics.
- ☐ Extended Safe Operating Area.
- ☐ Unrivalled Gate Charge :Qg= 16 nC (Typ.).
- ☐ BVDSS= 30 V,I_D= 10A
- ☐ $R_{DS(on)}$: 15mΩ (Max) @V_G=10V
- ☐ 100% Avalanche Tested

SOT-23-3L

RoHS COMPLIANT





1:Gate (G)
2:Source (S)
3:Drain (D)

Absolute Maximum Ratings (T_A=25℃ unless otherwise specified)

Symbol	Parameter		Value	Units
V_{DS}	Drain-to-Source Voltage		30	V
V_{GS}	Gate-to-Source Voltage		± 20	V
I_D	Continuous Drain Current	T_A = 25°C	10	A
		T_A = 100°C	5	
I_{DM}	Pulsed Drain Current (1)		32	A
P_D	Power Dissipation	T_A = 25°C	2.0	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient(3)		86	°C/W
T_J, T_{STG}	Junction & Storage Temperature Range		-55 to 150	°C

WildGoose Semiconductor

Electrical Characteristics (T_J=25 ℃, unless otherwise noted)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250μA	30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=30V, V_{GS}=0V,	-	-	1.0	μA
I_{GSS}	Gate to Body Leakage Current	V_{DS}=0V, V_{GS}=±20V	-	-	±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250μA	1.0	1.6	2.5	V
$R_{DS(on)}$	Static Drain-Source on-Resistance note3	V_{GS}=10V, I_D=10A	-	10	15	mΩ
		V_{GS}=4.5V, I_D=10A	-	16	22	
C_{iss}	Input Capacitance	V_{DS}=15V, V_{GS}=0V, f=1.0MHz	-	614	-	pF
C_{oss}	Output Capacitance		-	118	-	pF
C_{rss}	Reverse Transfer Capacitance		-	98	-	pF
Q_g	Total Gate Charge	V_{DS}=15V, I_D=11A, V_{GS}=10V	-	16	-	nC
Q_{gs}	Gate-Source Charge		-	2.7	-	nC
Q_{gd}	Gate-Drain(“Miller”) Charge		-	4.5	-	nC
$t_{d(on)}$	Turn-on Delay Time	V_{DS}=15V,R_L=1.35Ω, R_{GEN}=3Ω, V_{GS}=10V	-	6	-	ns
t_r	Turn-on Rise Time		-	10	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	30	-	ns
t_f	Turn-off Fall Time		-	6.5	-	ns
I_S	Maximum Continuous Drain to Source Diode Forward Current		-	-	10	A
I_{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	32	A
V_{SD}	Drain to Source Diode Forward Voltage	V_{GS}=0V, I_S=15A	-	-	1.2	V
trr	Body Diode Reverse Recovery Time	I_F=11A,dI/dt=500A/μs	-	7	-	ns
Qrr	Body Diode Reverse Recovery Charge		-	10	-	nC

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Typical Performance Characteristics

Figure1: Output Characteristics

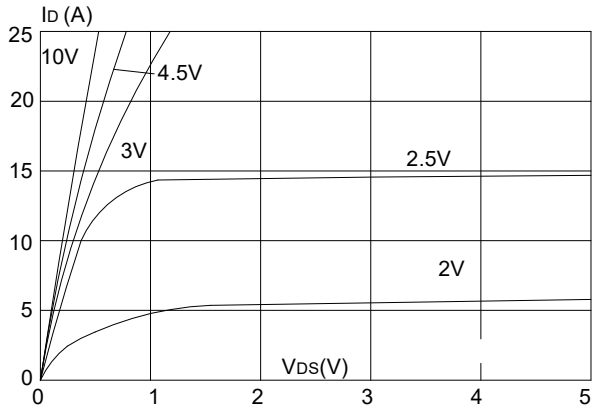


Figure 2: Typical Transfer Characteristics

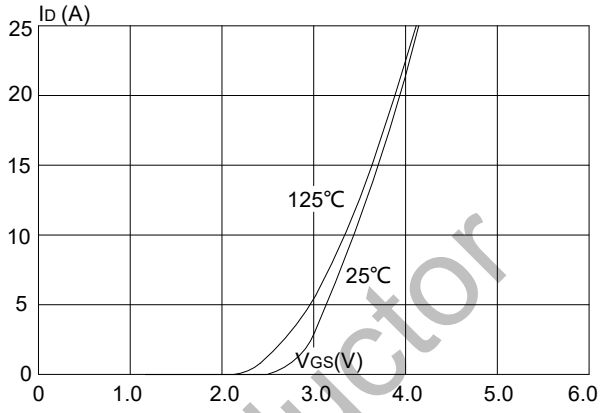


Figure 3: On-resistance vs. Drain Current

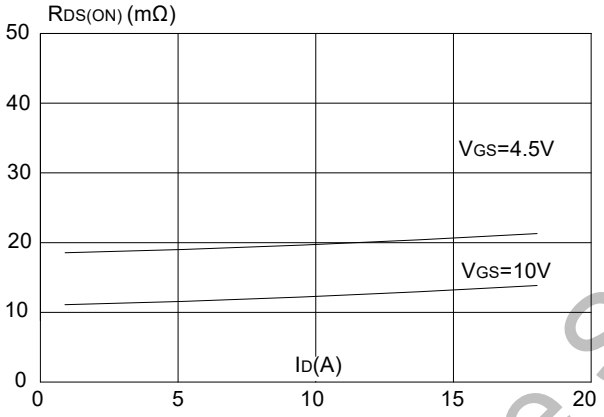


Figure 4: Body Diode Characteristics

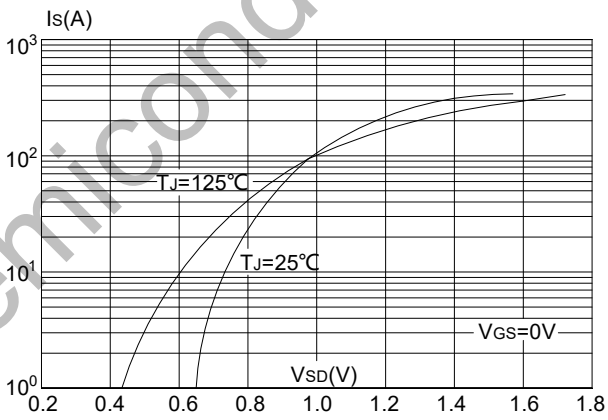


Figure 5: Gate Charge Characteristics

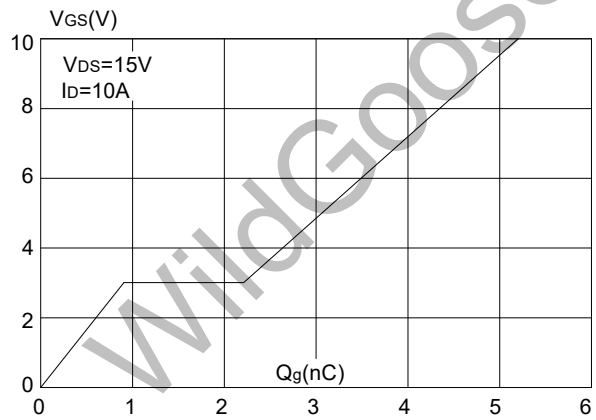
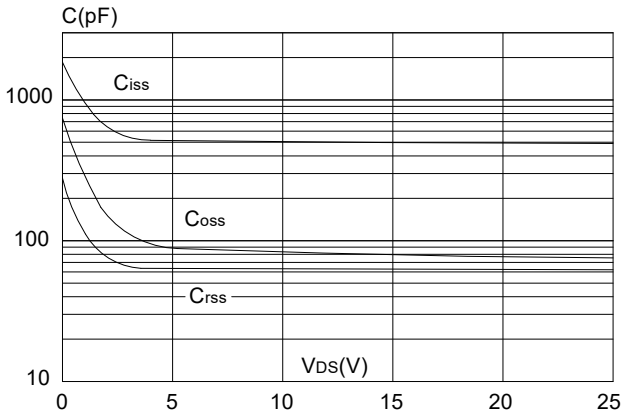


Figure 6: Capacitance Characteristics



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Typical Performance Characteristics

Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

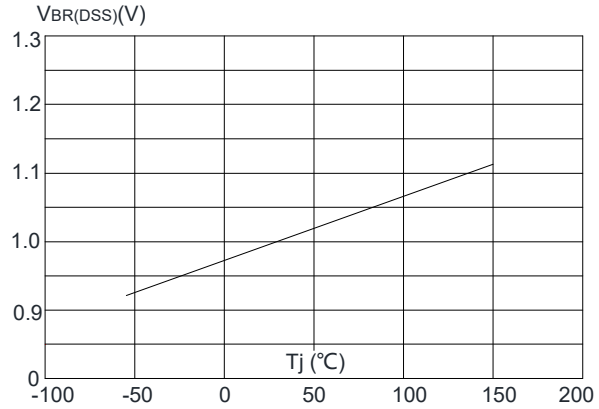


Figure 8: Normalized on Resistance vs. Junction Temperature

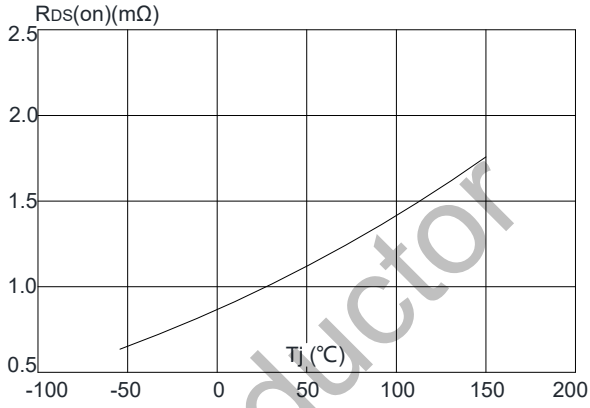


Figure 9: Maximum Safe Operating Area

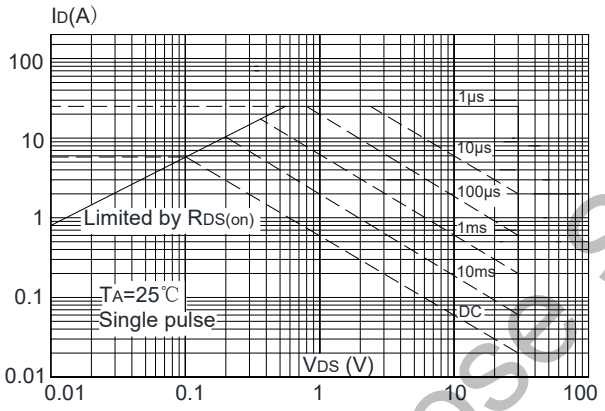


Figure 10: Maximum Continuous Drain Current vs. Ambient Temperature

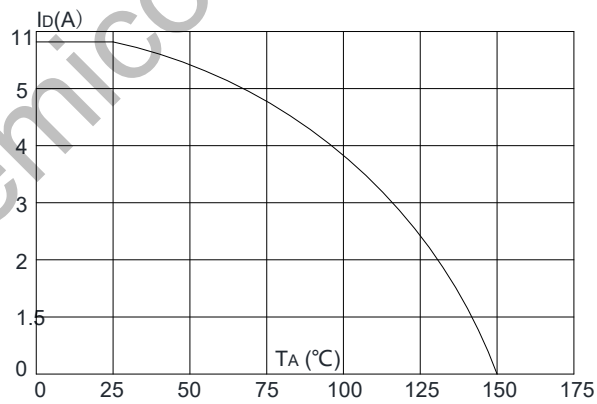
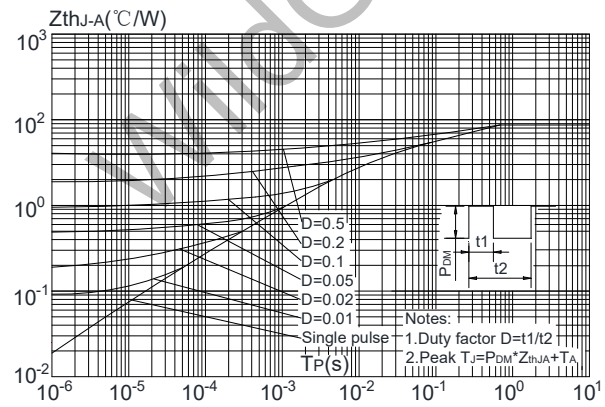


Figure.11: Maximum Effective Transient Thermal Impedance, Junction-to-Ambient



WildGoose Semiconductor

Test Circuit

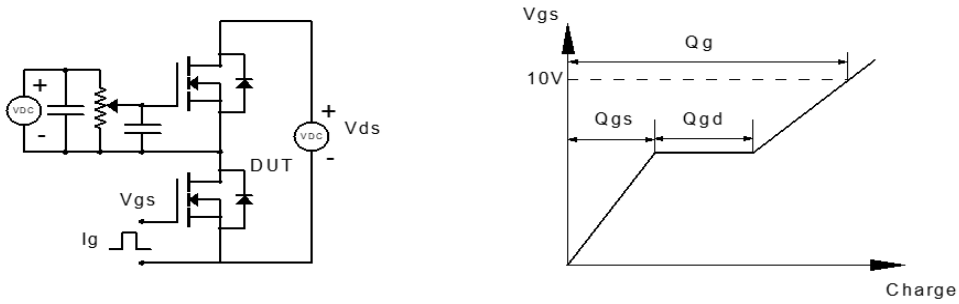


Figure 1: Gate Charge Test Circuit & Waveform

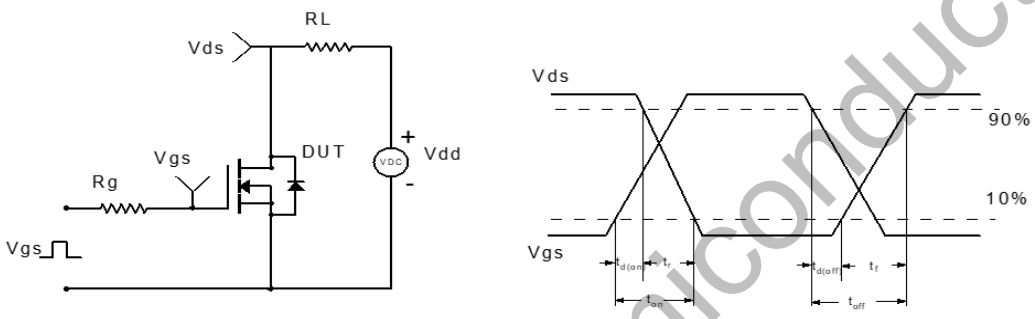


Figure 2: Resistive Switching Test Circuit & Waveform

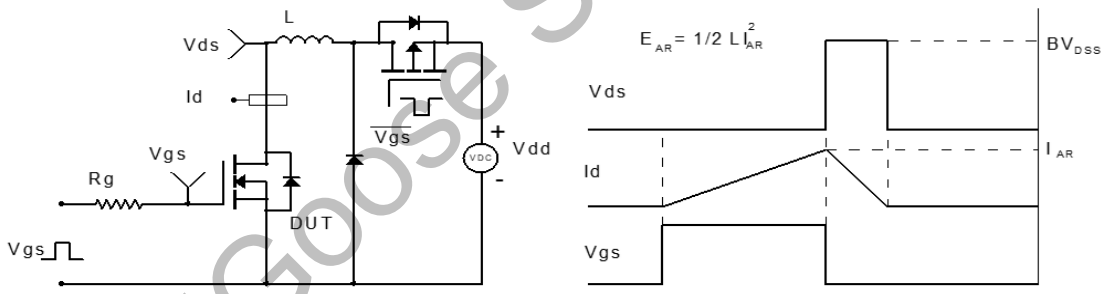


Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

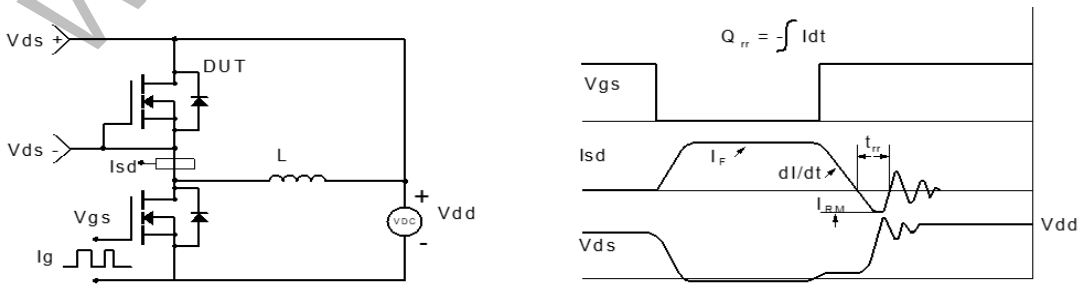


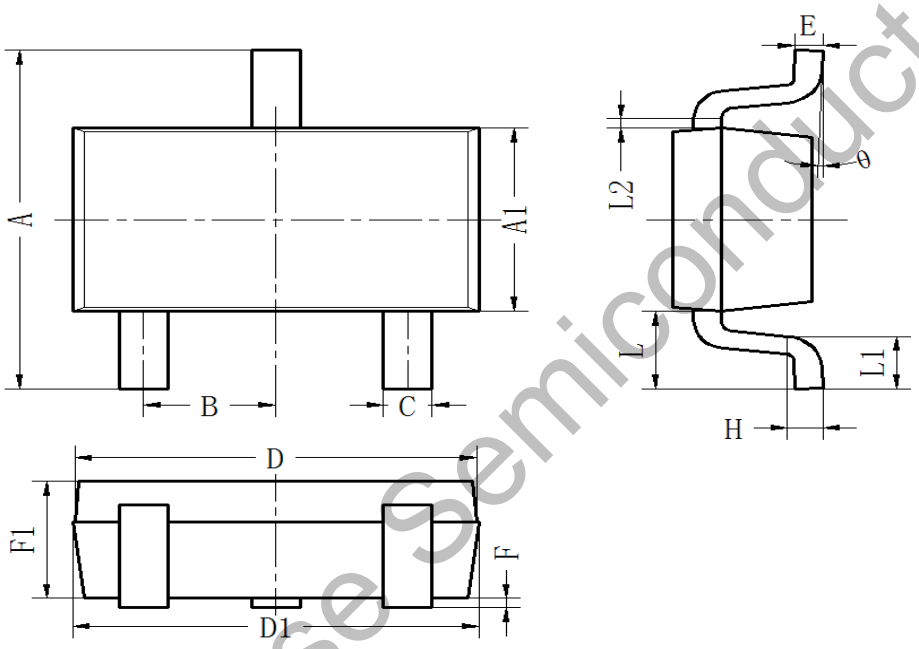
Figure 4: Diode Recovery Test Circuit & Waveform

WildGoose Semiconductor

Package Dimension

SOT-23-3L

Unit: mm



符号	标准	下公差	上公差	下限值		上限值	
				内控	放行	内控	放行
A	2.8	-0.15	0.15	2.68	2.65	2.92	2.95
A1	1.6	-0.1	0.1	1.52	1.5	1.68	1.7
B	0.95	-0.05	0.05	0.91	0.90	0.99	1.00
C	0.4	-0.1	0.1	0.32	0.3	0.45	0.5
D	2.92	-0.1	0.1	2.84	2.82	3.00	3.02
D1	2.92	-0.05	0.05	2.88	2.87	2.96	2.97
E	0.15	-0.05	0.05	0.11	0.1	0.19	0.2
H	0.254	-0.05	0.05	0.214	0.204	0.294	0.304
L	0.65	-0.1	0.1	0.57	0.55	0.73	0.75
L1	0.45	-0.15	0.15	0.33	0.3	0.57	0.6
L2	0.08	-0.02	0.02	0.06	0.06	0.10	0.10
θ	/	/	/	/	0	/	8
F1	1.1	-0.05	0.05	1.06	1.05	1.14	1.15
F	0.08	-0.04	0.04	0.05	0.04	0.11	0.12

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