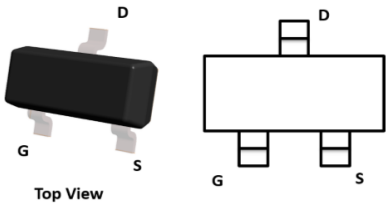
Features

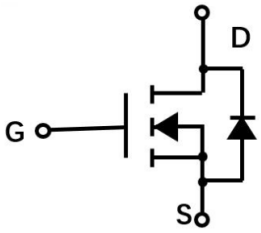
- 100V, 4.9A
- $R_{DS(ON)}$ = 130mΩ (Max.) @ V_{GS} = 10V, I_D = 3A
- High Power and Current Handing Capability
- Lead Free Product is Acquired
- Surface Mount Package

Application

- PWM Application
- Load Switch
- Power Management

Package





SOT-23-3L
SEZ9582AG

Absolute Maximum Ratings T_C=25℃ unless otherwise specified

Symbol	Parameter		Max.	Units
V_{DSS}	Drain-Source Voltage		100	V
V_{GSS}	Gate-Source Voltage		± 20	V
I_D	Continuous Drain Current note5	T_C = 25℃	4.9	A
I_D	Continuous Drain Current note5	T_C = 100℃	3.1	A
I_{DM}	Pulsed Drain Current note3		19.6	A
P_D	Power Dissipation note2	T_C = 25℃	17	W
I_{AS}	Avalanche Current note3,6		3.5	A
E_{AS}	Single Pulse Avalanche Energy note3,6		3.2	mJ
$R_{\theta JC}$	Thermal Resistance, Junction to Case		7.2	℃/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient note1,4		62.5	℃/W
T_J, T_{STG}	Operating and Storage Temperature Range		-55 to +150	℃

Electrical Characteristics T_C=25℃ unless otherwise specified

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0V, I_D = 250μA	100	-	-	V
I_{DSS}	Drain-Source Leakage Current	V_{DS} = 80V, V_{GS} = 0V	-	-	1	μA
I_{GSS}	Gate to Body Leakage Current	V_{DS} = 0V, V_{GS} = ±20V	-	-	±100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250μA	1.2	1.8	2.6	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	V_{GS} = 10V, I_D =3A	-	105	130	mΩ
		V_{GS} = 4.5V, I_D = 2A	-	135	150	mΩ
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS} = 50V, V_{GS} = 0V, f = 1.0MHz	-	212	-	pF
C_{oss}	Output Capacitance		-	27.5	-	pF
C_{rss}	Reverse Transfer Capacitance		-	1.6	-	pF
Switching Characteristics						
Q_g	Total Gate Charge	V_{DS}= 50V, I_D = 3A, V_{GS} = 10V	-	3.3	-	nC
Q_{gs}	Gate-Source Charge		-	0.35	-	
Q_{gd}	Gate-Drain(“Miller”) Charge		-	0.87	-	
$t_{d(on)}$	Turn-On Delay Time	V_{DS} = 50V, I_D = 3A, R_G = 2Ω, V_{GS}=10V	-	13.2	-	ns
t_r	Turn-On Rise Time		-	2.2	-	
$t_{d(off)}$	Turn-Off Delay Time		-	11	-	
t_f	Turn-Off Fall Time		-	1.1	-	
Diode Characteristics						
I_S	Continuous Source Current		-	-	4.9	A
V_{SD}	Diode Forward Voltage	I_S=3A . V_{GS} = 0V	-	-	1.0	V
t_{rr}	Reverse Recovery Time	I_{SD}=3A, dI_{SD}/dt=100A/μs	-	27	-	ns
Q_{rr}	Reverse Recovery Charge		-	35	-	nC

Notes:

1. The value of $R_{\theta JC}$ is measured in a still air environment with TA =25°C and the maximum allowed junction temperature of 150°C. The value in any given application depends on the user's specific board design.

2. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heatsinking is used.

3. Single pulse width limited by junction temperature $T_{J(MAX)}$=150°C.

4. The $R_{\theta JA}$ is the sum of the thermal impedance from junction to case $R_{\theta JC}$ and case to ambient.

5. The maximum current rating is package limited.

6. The EAS data shows Max. rating. The test condition is V_{DS}=50V,V_{GS}=10V,L=0.5mH

Typical Performance Characteristics

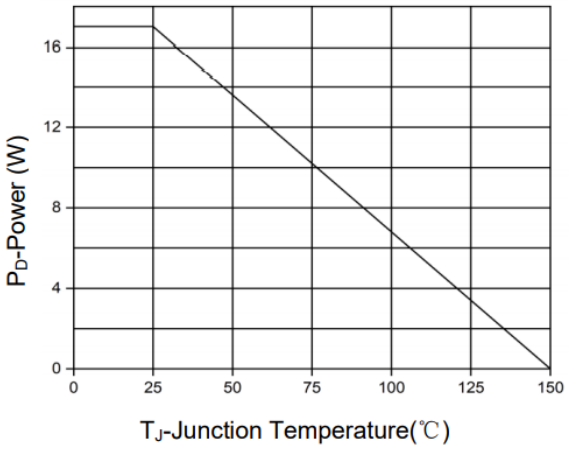


Figure 1. Power Dissipation

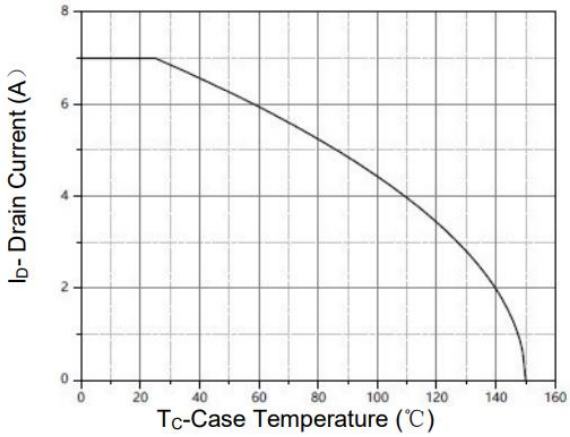


Figure 2. Drain Current

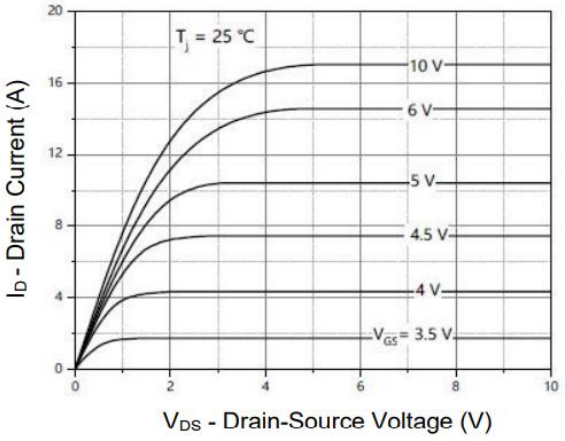


Figure 3. Output characteristics

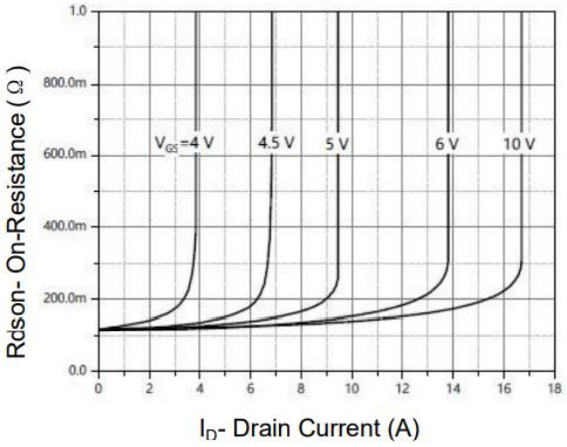


Figure 4. Drain-Source On-state resistance

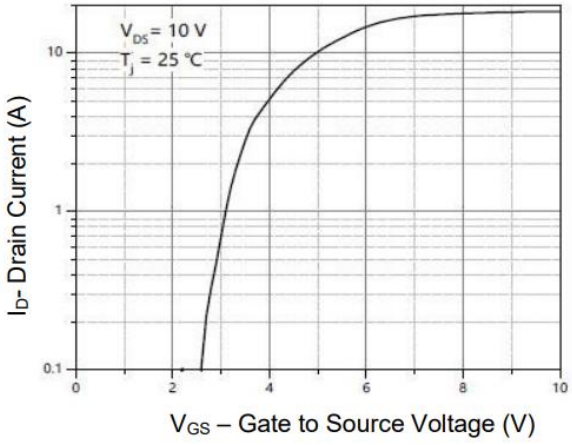


Figure 5. Transfer Characteristics

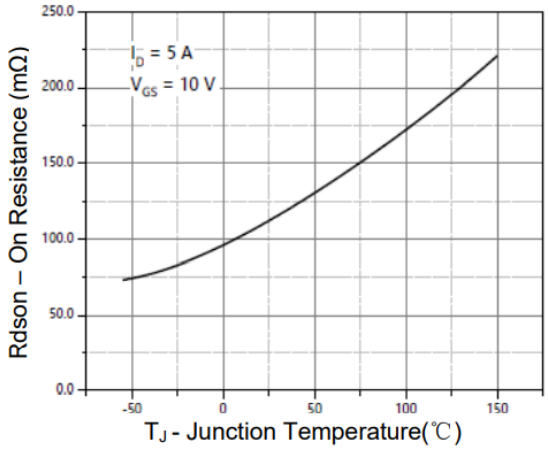


Figure 6. Drain-Source On-State Resistance

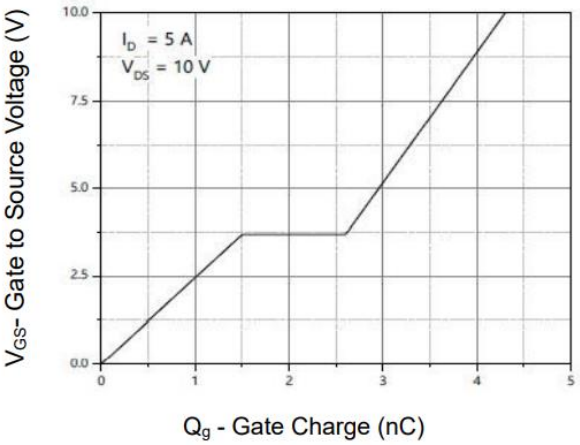


Figure 7. Gate Charge

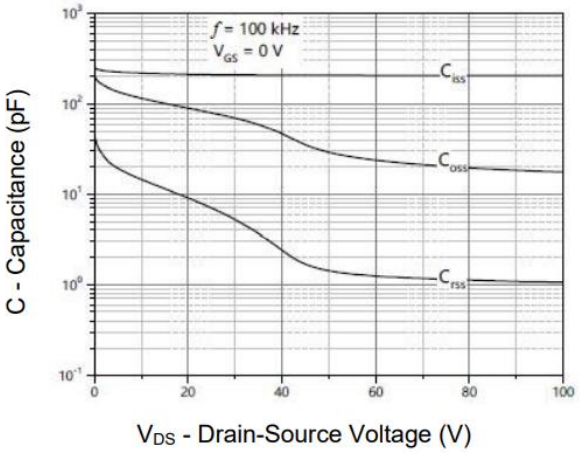


Figure 8. Capacitance vs Vds

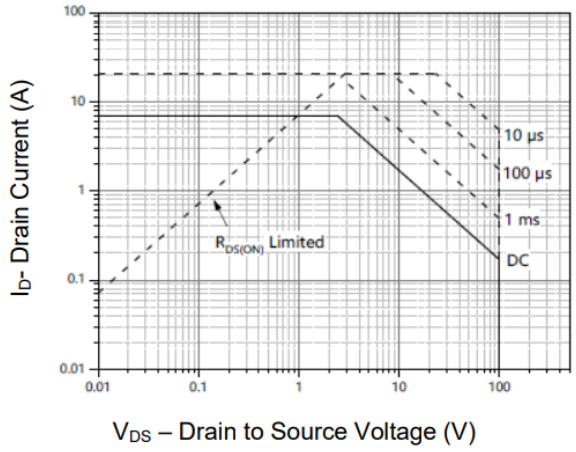


Figure 9. Safe Operation Area

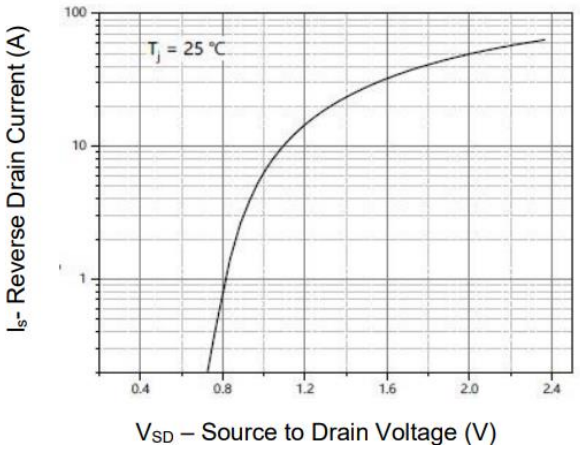


Figure 10. Source- Drain Diode Forward

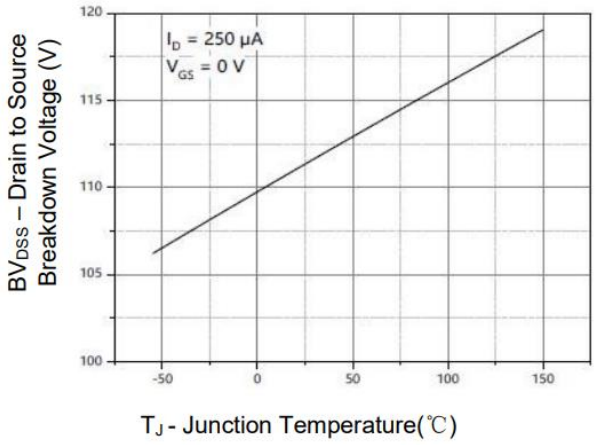
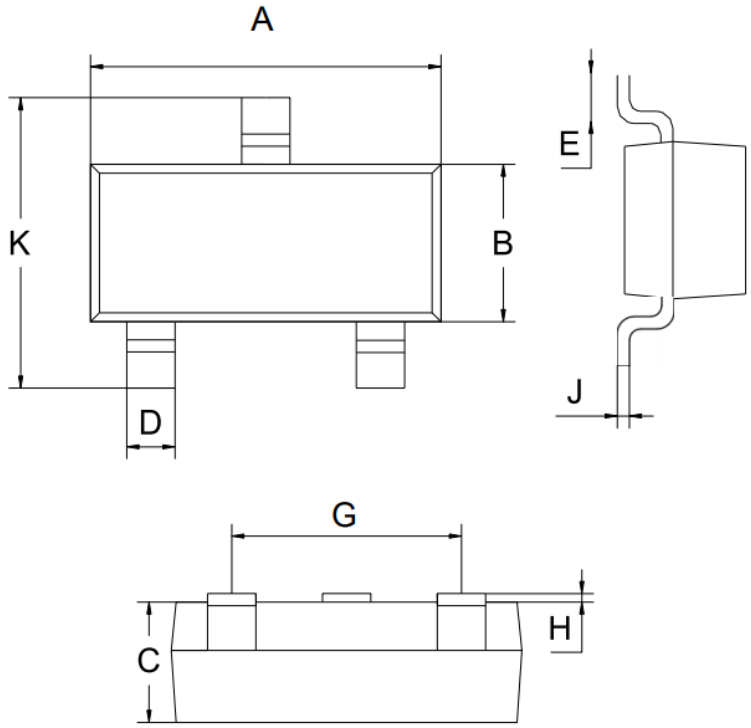


Figure 11. Drain-source breakdown voltage

SOT-23-3L Package Mechanical Data



SOT-23-3L			
Dim	MIN	NOM	MAX
A	2.80	2.90	3.00
B	1.50	1.60	1.70
C	1.00	1.10	1.20
D	0.30	0.40	0.50
E	0.25	0.40	0.55
G		1.90	
H	0.00	-	0.10
J	0.047	0.127	0.207
K	2.60	2.80	3.00
All Dimensions in mm			

NOTE:

1.We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.

2.Please do not exceed the absolute maximum ratings of the device when circuit designing.

3.Winsemi Microelectronics Co., Ltd reserved the right to make changes in this specification sheet and is subject to change without prior notice.

CONTACT:

WINSEMI Microelectronics Co., Ltd.

ADD:Room 1002, East, Phase 2, HighTech Plaza,Tian-An Cyber Park,Che gong miao, FuTian, Shenzhen, P.R. China.

Post Code : 518040

Tel : +86-755-8250 6288

FAX : +86-755-8250 6299

Web Site : www.winsemi.com