



- ★ Green Device Available
- ★ Super Low Gate Charge
- ★ Excellent CdV/dt effect decline
- ★ Advanced high cell density Trench technology

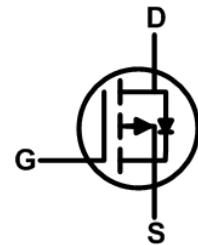
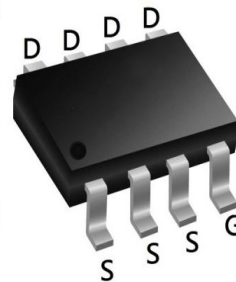
Product Summary

BVDSS	R _{DS(on)}	I _D
-30V	36mΩ	-5.3A

Description

The XXW9435A is the high cell density trenched P-ch MOSFETs, which provide excellent R_{DS(on)} and gate charge for most of the synchronous buck converter applications.

The XXW9435A meet the RoHS and Green Product requirement with full function reliability approved.

SOP8 Pin Configuration

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	-30	V
V _{GS}	Gate-Source Voltage	±20	V
I _{D@T_A=25°C}	Continuous Drain Current, V _{GS} @ -10V ¹	-5.3	A
I _{D@T_A=70°C}	Continuous Drain Current, V _{GS} @ -10V ¹	-4.7	A
I _{DM}	Pulsed Drain Current ²	-20	A
EAS	Single Pulse Avalanche Energy ³	---	mJ
I _{AS}	Avalanche Current	---	A
P _{D@T_A=25°C}	Total Power Dissipation ⁴	1.5	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-Ambient ¹	---	55	°C/W

Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V_{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V _{DS} = -30V, V _{GS} = 0V	-	-	-1	μA
Gate-Source Leakage	I_{GSS}	V _{DS} = 0V, V _{GS} = ±20V	-	-	±100	nA
Gate-Source Threshold voltage	V_{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1	-1.5	-2.5	V
Drain-Source on-State Resistance ³	R_{DS(on)}	V _{GS} = -10V, I _D = -4.1A	-	36	55	mΩ
		V _{GS} = -4.5V, I _D = -3A	-	48	85	
Dynamic Characteristics⁴						
Input Capacitance	C_{iss}	V _{GS} = 0V , V _{DS} = -15V, f = 1.0MHz	-	530	-	pF
Output Capacitance	C_{oss}		-	70	-	
Reverse Transfer Capacitance	C_{rss}		-	56	-	
Switching Characteristics⁴						
Total Gate Charge	Q_g	V _{GS} = -10V, V _{DS} = -15V, I _D = -4.1A	-	6.8	-	nC
Gate-Source Charge	Q_{gs}		-	1.0	-	
Gate-Drain Charge	Q_{gd}		-	1.4	-	
Turn-on Delay Time	t_{d(on)}	V _{GS} = -10V, V _{DS} = -15V , R _L = 15Ω,R _{GEN} = 2.5Ω	-	14	-	ns
Rise Time	t_r		-	61	-	
Turn-off Delay time	t_{d(off)}		-	19	-	
Fall Time	t_f		-	10	-	
Source-Drain Body Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	I _S = -4.1A, V _{GS} = 0V	-	-	-1.2	V
Continuous Source Current	I_S		-	-	-5.3	A

Notes:

1. Repetitive rating, pulse width limited by junction temperature T_{J(MAX)}=150°C.
2. The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper, The value in any given application depends on the user's specific board design.
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.
4. This value is guaranteed by design hence it is not included in the production test.

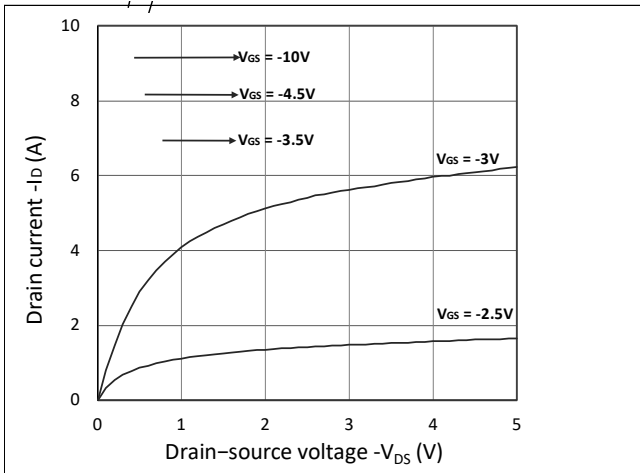
Typical Characteristics


Figure 1. Output Characteristics

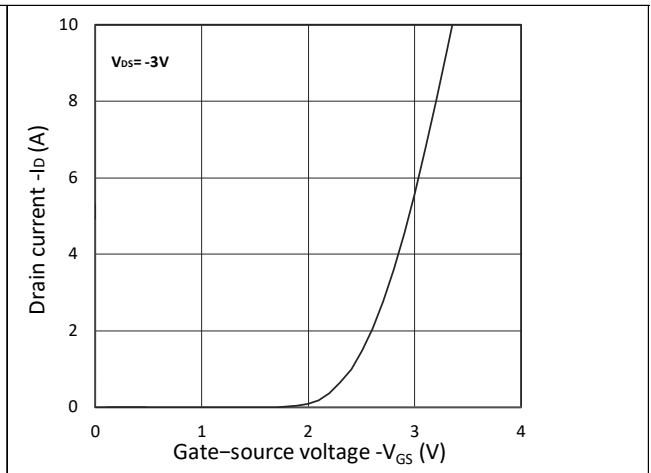


Figure 2. Transfer Characteristics

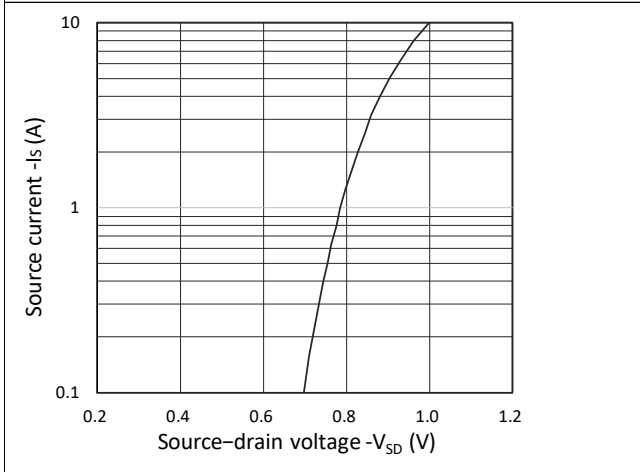
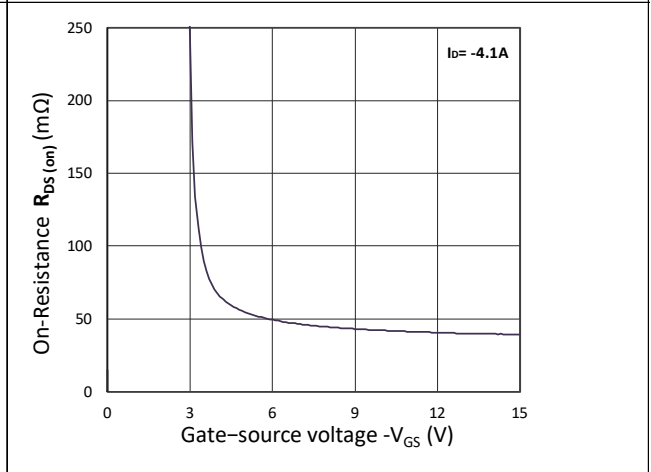
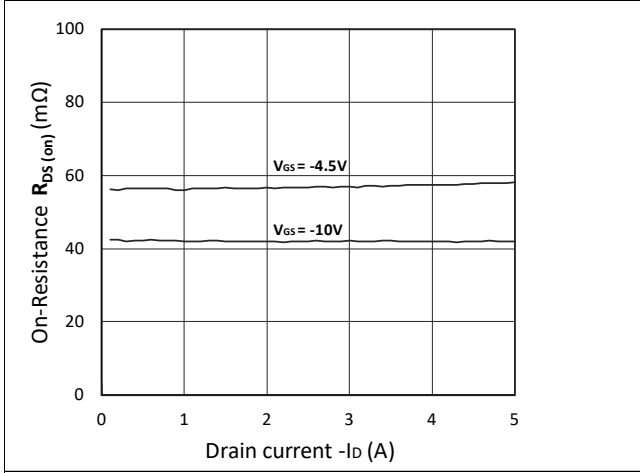
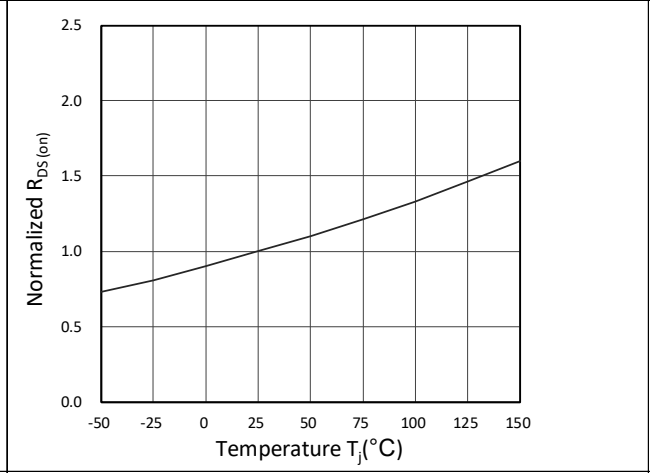
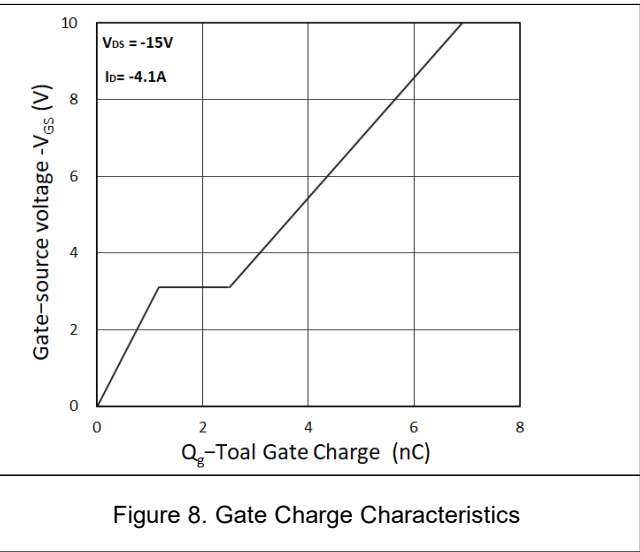
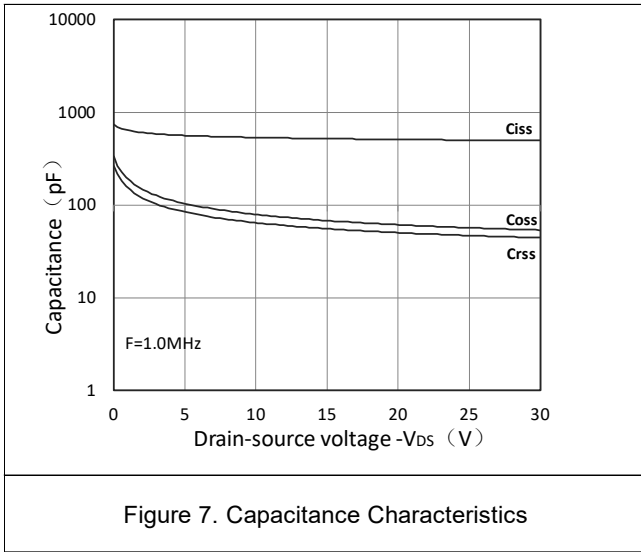
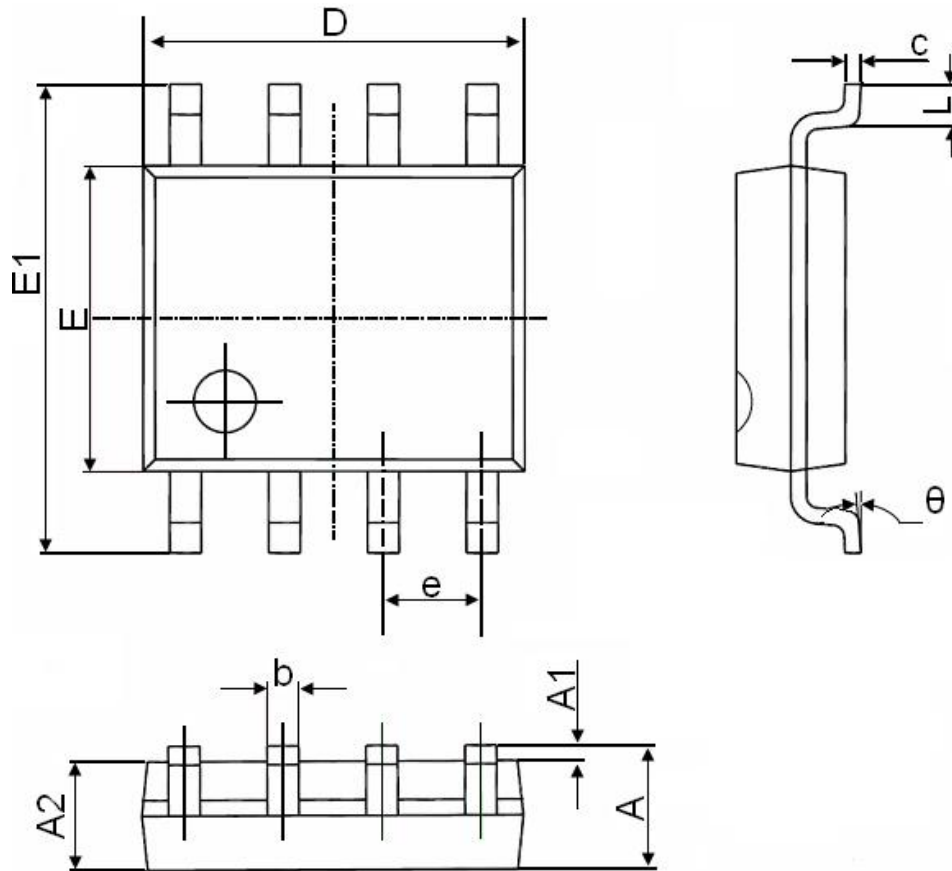


Figure 3. Forward Characteristics of Reverse


 Figure 4. $R_{DS(ON)}$ vs. V_{GS}

 Figure 5. $R_{DS(ON)}$ vs. I_D

 Figure 6. Normalized $R_{DS(ON)}$ vs. Temperature



SOP-8 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°