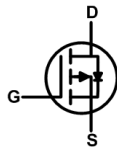
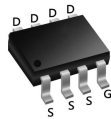


General Description

The AO4435 is the high cell density trenched P-ch MOSFETs, which provide excellent RDS(on) and gate charge for most of the synchronous buck converter applications.

The AO4435 meet the RoHS and Green Product requirement 100% EAS guaranteed with full function reliability approved.

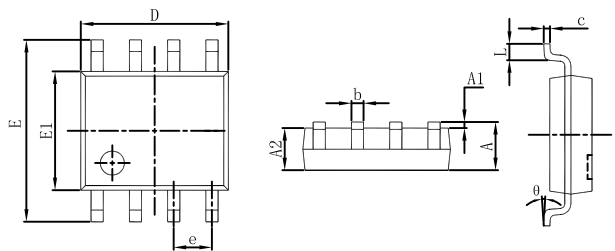
100% EAS Guaranteed
Green Device Available
Super Low Gate Charge
Excellent CdV/dt effect decline
Advanced high cell density Trench technology



Product Summary

BVDSS	RDS(on)	ID
-30V	16 mΩ	-10 A

SOP-8



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	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

Absolute Maximum Ratings (TA=25°C unless otherwise specified)

Symbol	Parameter		Max.	Units
VDS	Drain-Source Voltage		-30	V
VGS	Gate-Source Voltage		±20	V
ID	Continuous Drain Current	TC = 25°C	-10	A
		TC = 100°C	-7	A
IDM	Pulsed Drain Current ^{note1}		-40	A
PD	Power Dissipation	TA = 25°C	3.7	W
RθJA	Thermal Resistance, Junction to Ambient		33.8	°C/W
TJ, TSTG	Operating and Storage Temperature Range		-55 to +150	°C

AO4435

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
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	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	-1.0	-1.5	-2.4	V
R _{DS(on)}	Static Drain-Source on-Resistance note2	V _{GS} =-10V, I _D =-10A	-	16	23	mΩ
		V _{GS} =-4.5V, I _D =-5A	-	25	34	
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} = -15V, V _{GS} = 0V, f = 1.0MHz	-	1550	-	pF
C _{oss}	Output Capacitance		-	327	-	pF
C _{rss}	Reverse Transfer Capacitance		-	278	-	pF
Q _g	Total Gate Charge	V _{DS} = -15V, I _D = -9.1A, V _{GS} = -10V	-	30	-	nC
Q _{gs}	Gate-Source Charge		-	5.3	-	nC
Q _{gd}	Gate-Drain(“Miller”) Charge		-	7.6	-	nC
Switching Characteristics						
t _{d(on)}	Turn-on Delay Time	V _{DD} = -15V, I _D = -6A, V _{GS} =-10V, R _{GEN} =2.5Ω	-	14	-	ns
t _r	Turn-on Rise Time		-	20	-	ns
t _{d(off)}	Turn-off Delay Time		-	95	-	ns
t _f	Turn-off Fall Time		-	65	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I _S	Maximum Continuous Drain to Source Diode Forward Current		-	-	-10	A
I _{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	-40	A
V _{SD}	Drain to Source Diode Forward Voltage	V _{GS} = 0V, I _S = -10A	-	-0.8	-1.2	V

Notes:1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature

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

RATING AND CHARACTERISTIC CURVES (AO4435)

Figure1: Output Characteristics

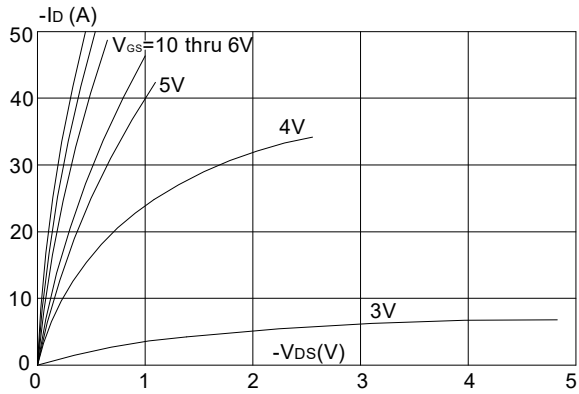


Figure 2: Typical Transfer Characteristics

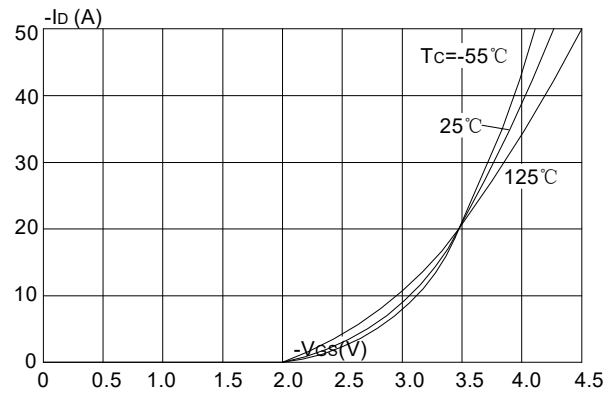


Figure 3: On-resistance vs. Drain Current

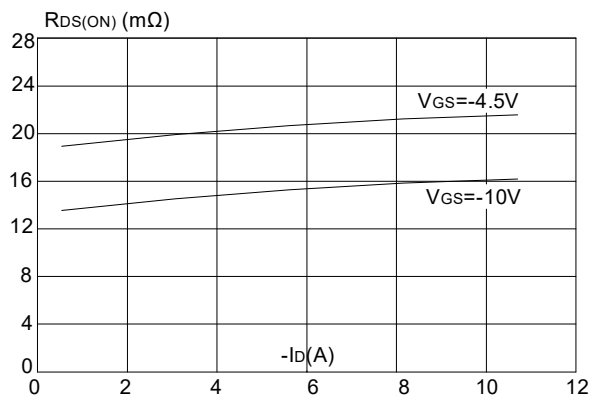


Figure 4: Body Diode Characteristics

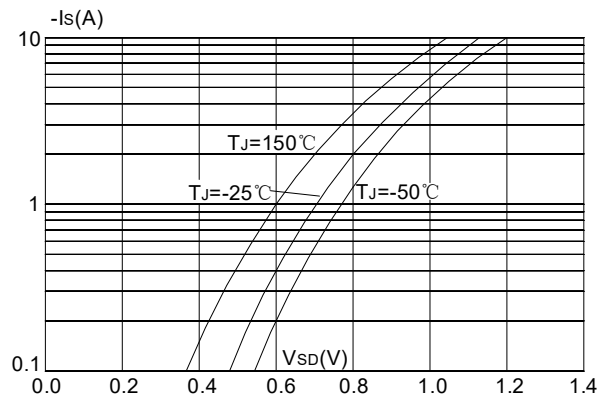


Figure 5: Gate Charge Characteristics

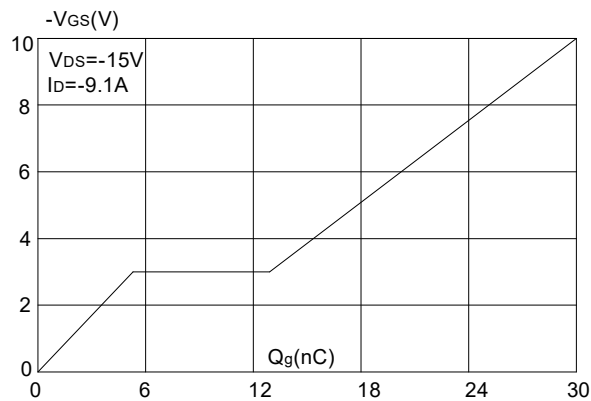
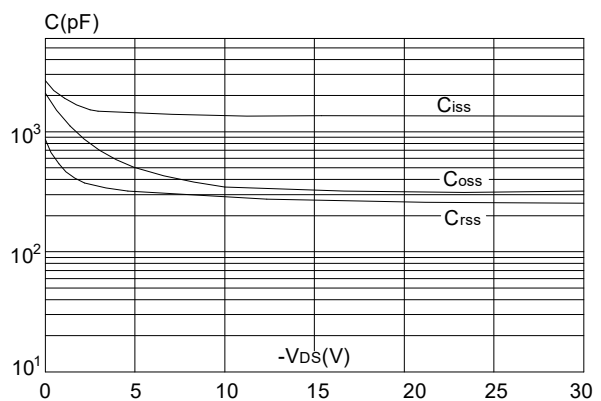


Figure 6: Capacitance Characteristics



RATING AND CHARACTERISTIC CURVES (AO4435)

Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

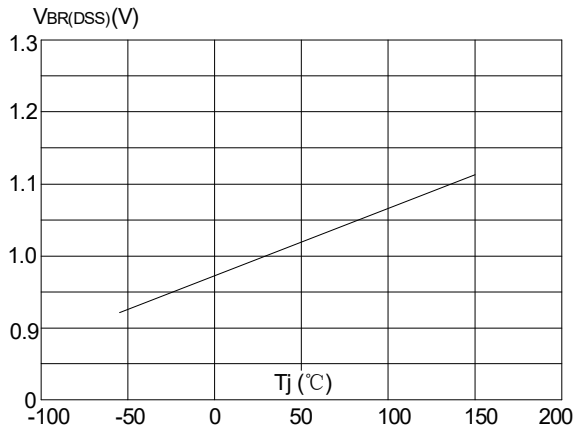


Figure 8: Normalized on Resistance vs. Junction Temperature

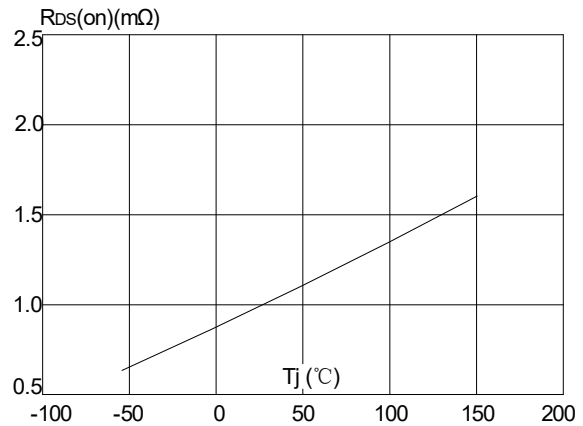


Figure 9: Maximum Safe Operating Area

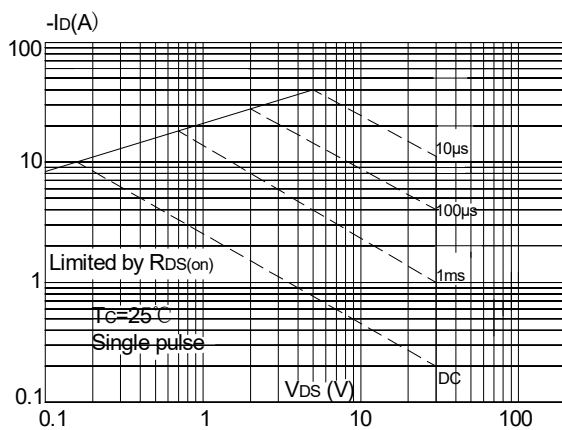


Figure 10: Maximum Continuous Drain Current vs. Case Temperature

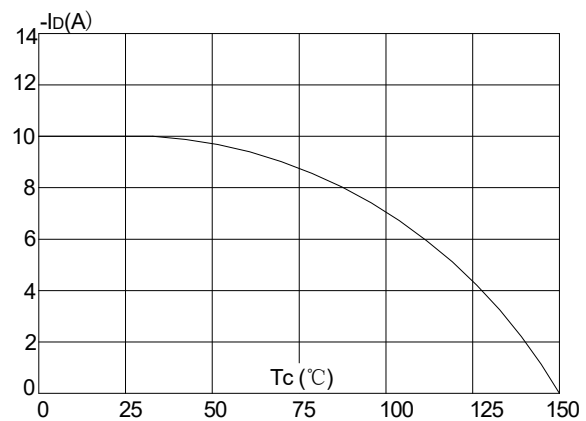


Figure 11: Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

