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

Product Summary

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D Max
30V	11.5mΩ @10V	13A
	15.5mΩ @ 4.5V	

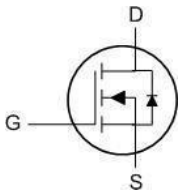
■ Description

The AO4468isthe high cell density trenched N-Ch MOSFETs , which provide excellent RDSON and gate charge for most of the synchronous buck converter-applications.
The AO4468 meet the RoHS and Green Product requirement , 100 % EAS guaranteed with full function reliability approved.

SOP8



pin assignment



Schematic diagram

■ Order Information

Product	Package	Marking	Packing	Min Unit Quantity
AO4468	SOP8	*	3000PCS/Reel	3000PCS

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current	TA=25℃	I_D	13	A
	TA=70℃		10.4	
Pulsed Drain Current		I_{DM}	100	
Avalanche Current		I_{AS}	22	
Avalanche energy	L=0.1mH	E_{AS}	24	mJ
Power Dissipation	TA=25℃	P_D	3.1	W
	TA=70℃		2	
Thermal Resistance.Junction- to-Ambient	t ≤ 10s	R_{thJA}	40	℃/W
	Steady-State		75	
Thermal Resistance.Junction- to-Lead		R_{thJL}	24	
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250 uA, V_{GS}=0V	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1	uA
		V_{DS}=30V, V_{GS}=0V, T_J=55℃			5	
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250uA	1.5		2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=12A			11.5	mΩ
		V_{GS}=10V, I_D=12A T_J=125℃			17	
		V_{GS}=4.5V, I_D=10A			15.5	
On State Drain Current	$I_{D(ON)}$	V_{GS}=10V, V_{DS}=5V	100			A
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=12A		45		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=15V, f=1MHz	610		910	pF
Output Capacitance	C_{oss}		88		160	
Reverse Transfer Capacitance	C_{rss}		40		100	
Gate Resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz	0.8		2.4	Ω
Total Gate Charge (10V)	Q_g	V_{GS}=10V, V_{DS}=15V, I_D=12A	11		17	nC
Total Gate Charge (4.5V)			5		8	
Gate Source Charge	Q_{gs}		1.9		2.9	
Gate Drain Charge	Q_{gd}		1.8		4.2	
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=15V, R_L=1.25Ω, R_{GEN}=3Ω		4.4		ns
Turn-On Rise Time	t_r			9		
Turn-Off DelayTime	$t_{d(off)}$			17		
Turn-Off Fall Time	t_f			6		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 12A, dI/dt= 500A/us	5.6		8	
Body Diode Reverse Recovery Charge	Q_{rr}		6.4		9.6	nC
Maximum Body-Diode Continuous Current	I_S				4	A
Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V			1	V

Note : The static characteristics in Figures 1 to 6 are obtained using <300 μs pulses, duty cycle 0.5% max.

■ Typical Characterisitics

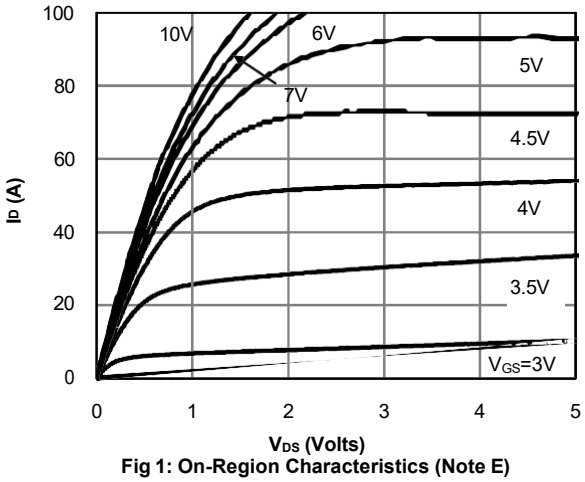


Fig 1: On-Region Characteristics (Note E)

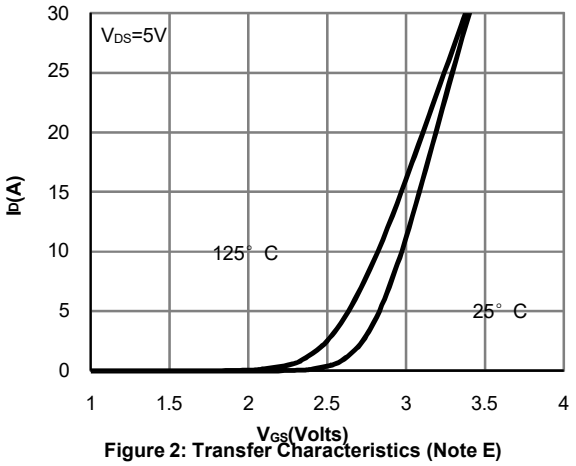


Figure 2: Transfer Characteristics (Note E)

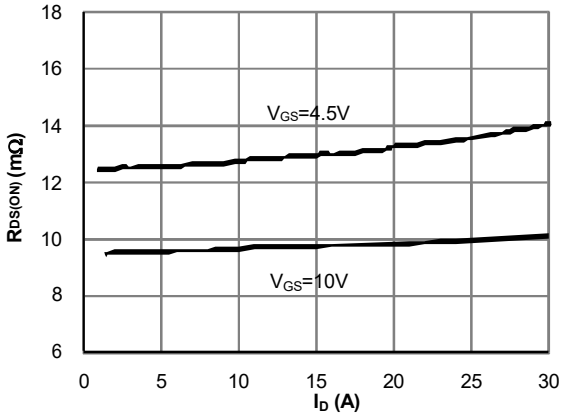


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

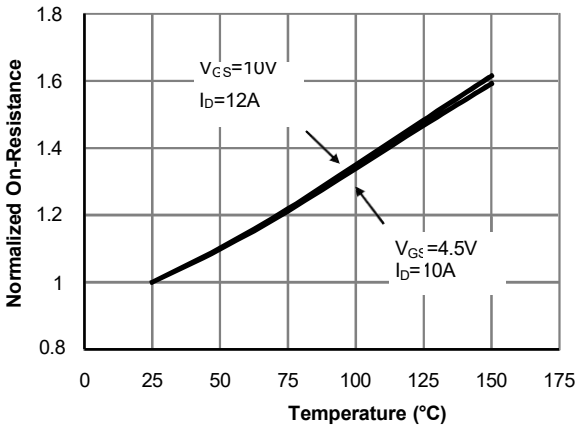


Figure 4: On-Resistance vs. Junction Temperature (Note E)

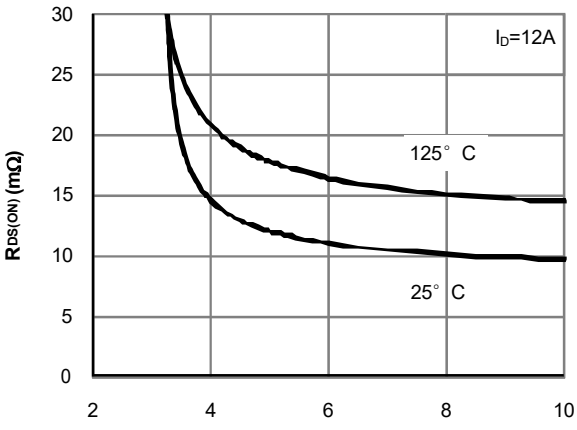


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

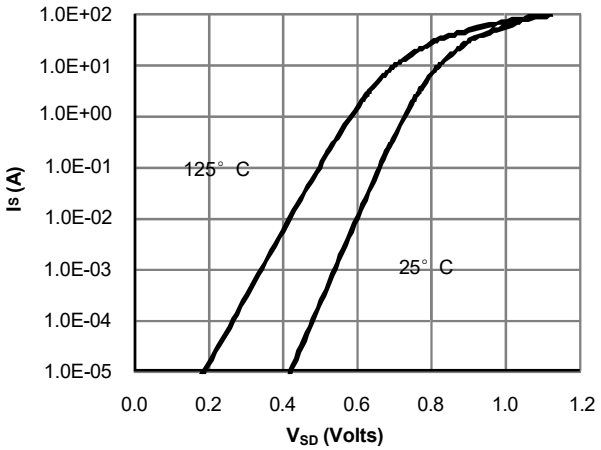


Figure 6: Body-Diode Characteristics (Note E)

■ Typical Characterisitics

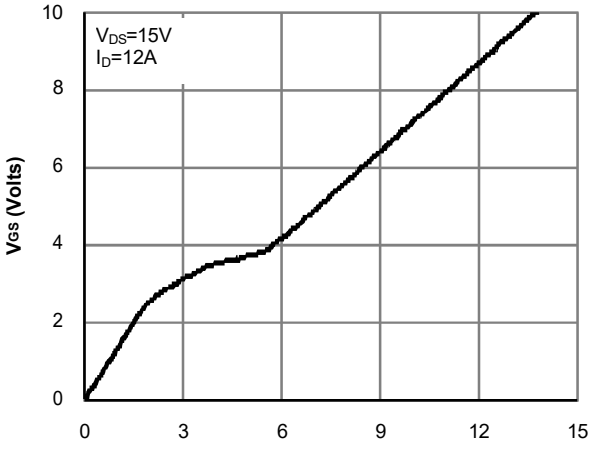


Figure 7: Gate-Charge Characteristics

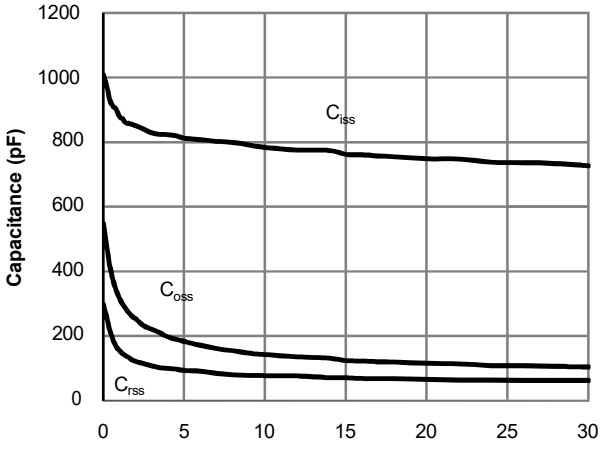


Figure 8: Capacitance Characteristics

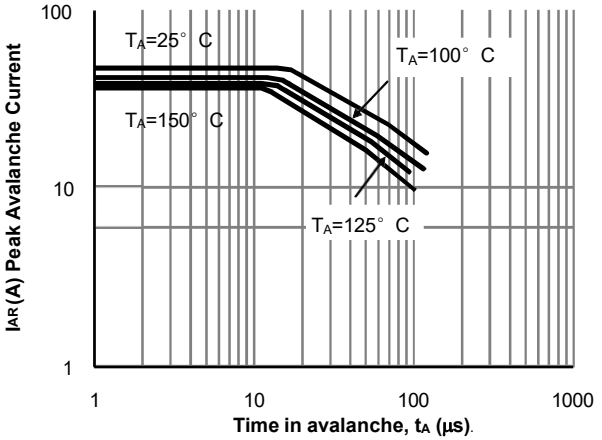


Figure 9: Single Pulse Avalanche capability (Note C)

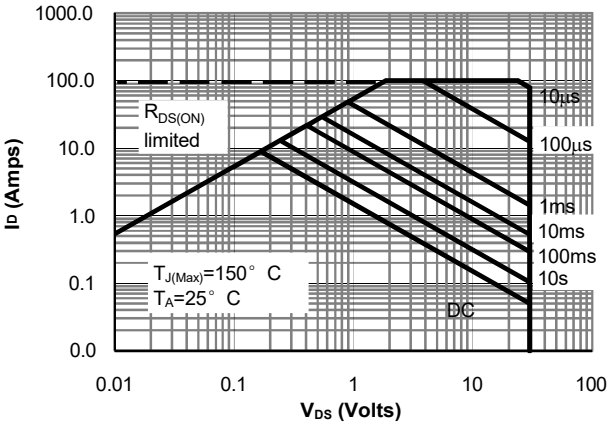


Figure 10: Maximum Forward Biased Safe Operating Area (Note F)

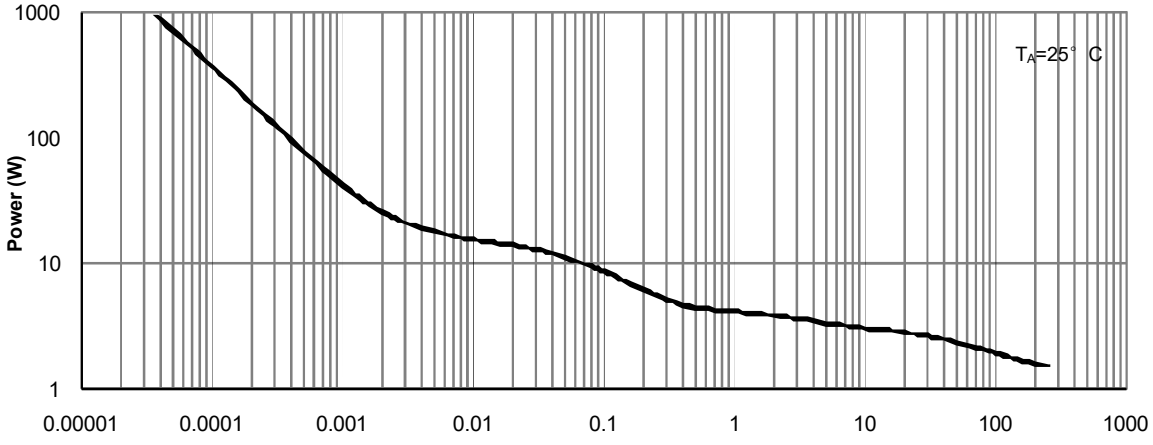
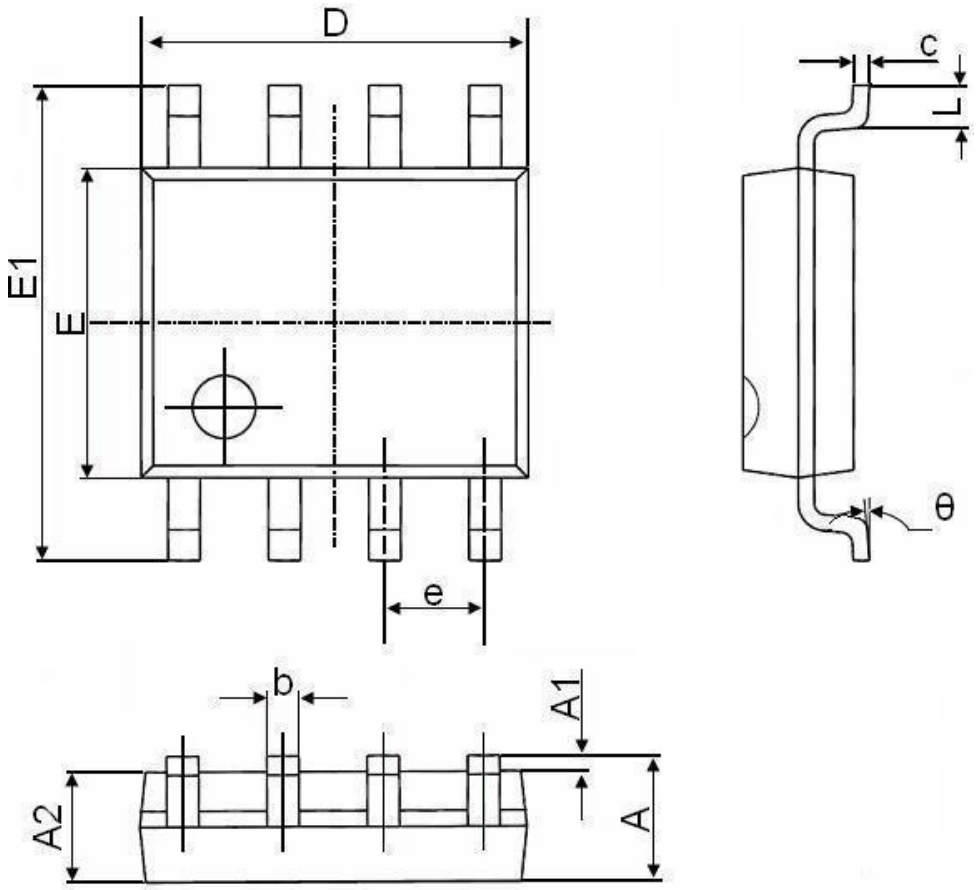


Figure 11: Single Pulse Power Rating Junction-to-Ambient (Note F)

■ 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°