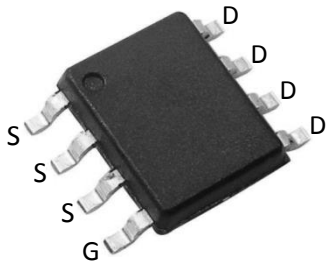
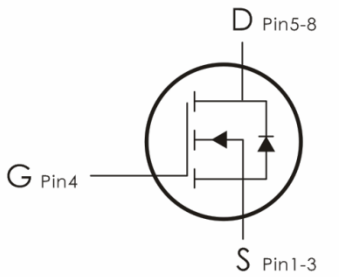
Description：

This N-Channel MOSFET uses advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.





Features：

1) V_{DS}=30V,I_D= 9A,$R_{DS(ON)}$<23mΩ @V_{GS}=10V
2) Low gate charge.
3) Green device available.
4) Advanced high cell denity trench technology for ultra $R_{DS(ON)}$.
5) Excellent package for good heat dissipation.

Absolute Maximum Ratings： (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Drain Current – Continuous (T_C=25℃)	9	A
I_{DM}	Drain Current – Pulsed	30	
P_D	Power Dissipation	2	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +175	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JC}$	Thermal Resistance,Junction to Case	---	℃/W
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient**	62.5	

Package Marking and Ordering Information：

Part NO.	Marking	Package
AO4468A	4468	SOP-8

Electrical Characteristics: (T_C=25℃ unless otherwise noted)

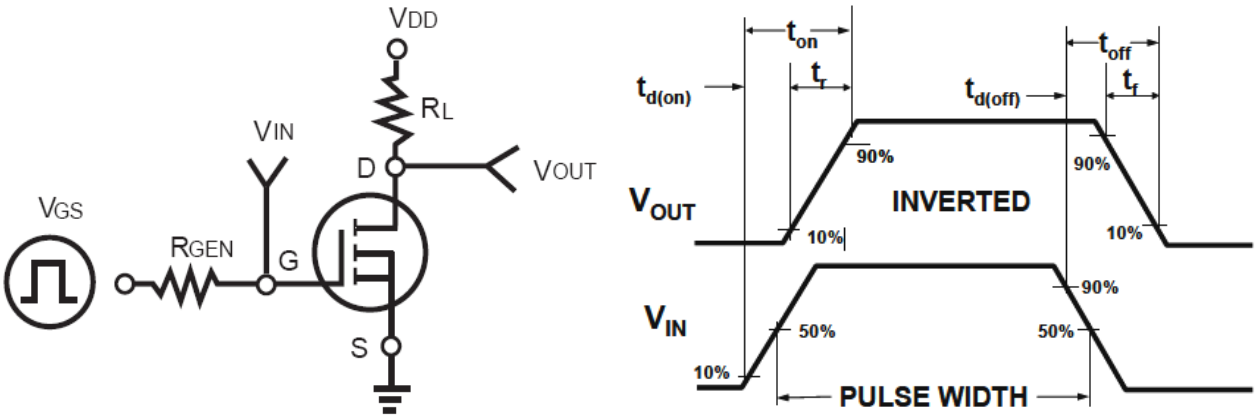
Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	30	---	---	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=150V , V_{GS}=0V	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V, V_{DS}=0V	---	---	±100	nA
On Characteristics[3]						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	1.2		2.4	V
$R_{DS(ON)}$	Static Drain-Source On Resistance	V_{GS}=10V,I_D=7A	---	20	23	mΩ
		V_{GS}=4.5V,I_D=5A		30	42	
G_{FS}	Forward Transconductance	V_{DS}=5V, I_D=7A	3	10	---	S
Dynamic Characteristics[4]						
C_{iss}	Input Capacitance	V_{DS}=15V, V_{GS}=0V, f=1MHz	---	540	---	pF
C_{oss}	Output Capacitance		---	83	---	
C_{rss}	Reverse Transfer Capacitance		---	63	---	
Switching Characteristics[4]						
$t_{d(on)}$	Turn-On Delay Time	V_{DD}=15V,I_D=7A,R_L=15Ω V_{GS}=10V,R_G=2.5Ω	---	10	---	ns
t_r	Rise Time		---	4	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	27	---	ns
t_f	Fall Time		---	5	---	ns
Q_g	Total Gate Charge	V_{GS}=5V, V_{DS}=10V, I_D=7A	---	13	---	nC
Q_{gs}	Gate-Source Charge		---	1.3	---	nC
Q_{gd}	Gate-Drain “Miller” Charge		---	4.6	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage[1]	V_{GS}=0V,I_S=30A,T_J=25℃	---		1.2	V
I_{SD}	Continuous Source Current	---	---	---	2	A

Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.

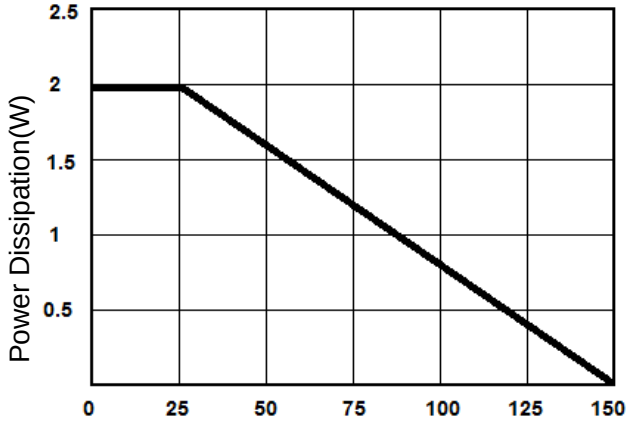
Typical Characteristics: (T_C=25℃ unless otherwise noted)

Switch Time Test Circuit and Switching Waveforms:



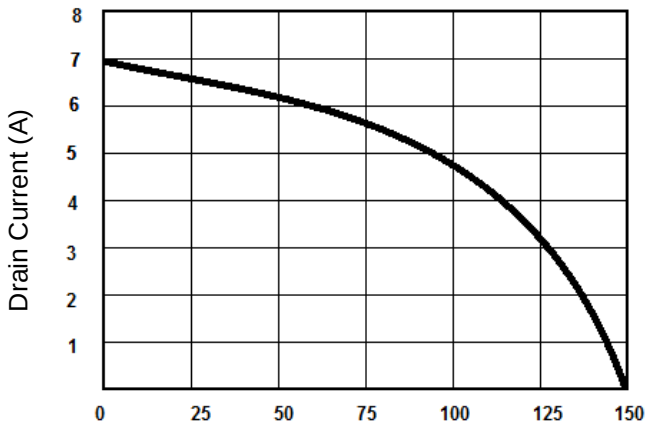
TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS (Curves)

Figure1. Power Dissipation



TJ-Junction Temperature (℃)

Figure2. Drain Current



TJ-Junction Temperature (℃)

Figure3. Output Characteristics

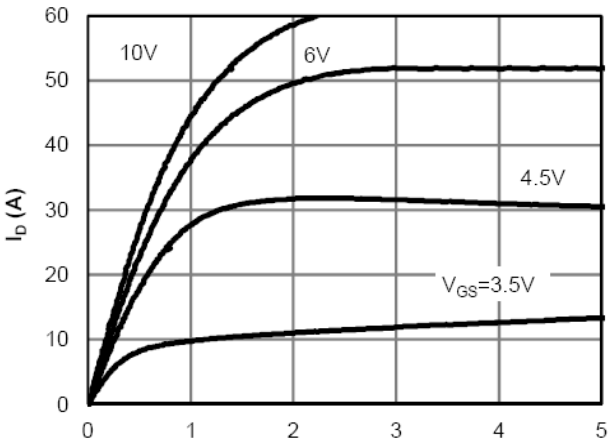


Figure4. Transfer Characteristics

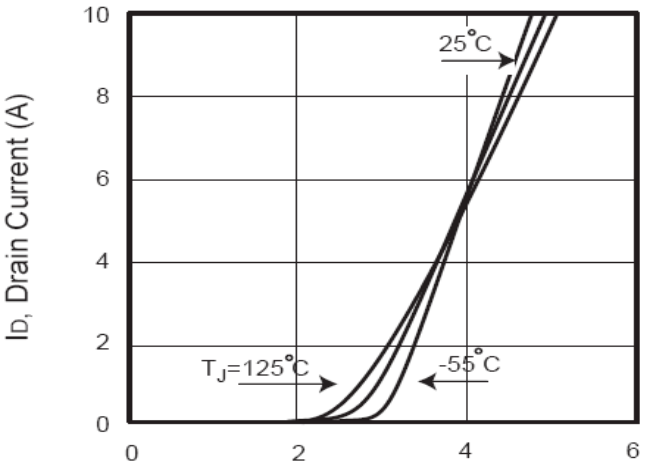


Figure5. Capacitance

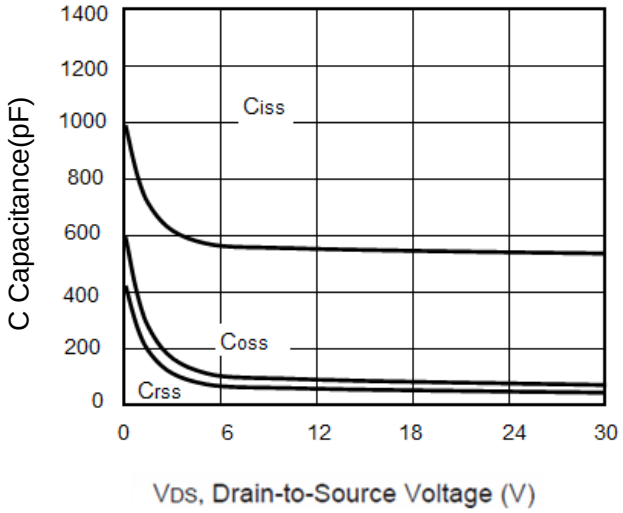


Figure6. $R_{DS(ON)}$ vs Junction Temperature

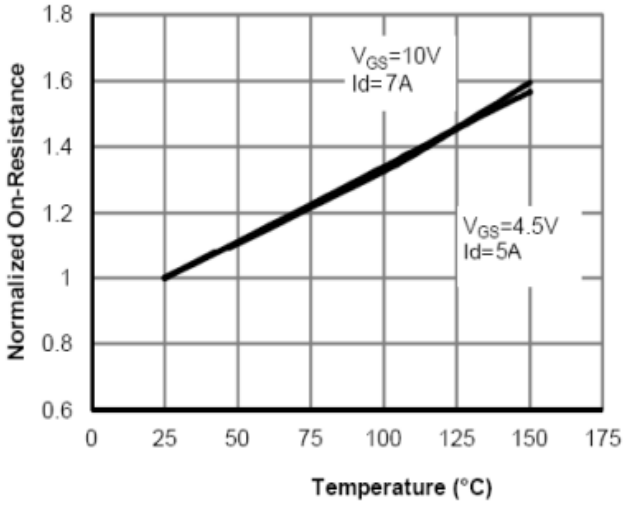


Figure7. Max BV_{DSS} vs Junction Temperature

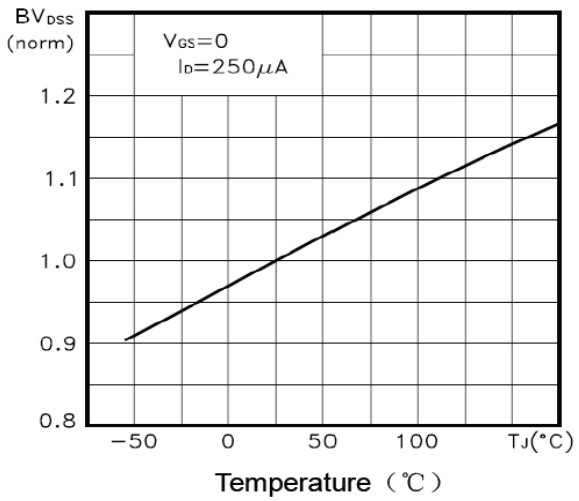


Figure8. $V_{GS(th)}$ vs Junction Temperature

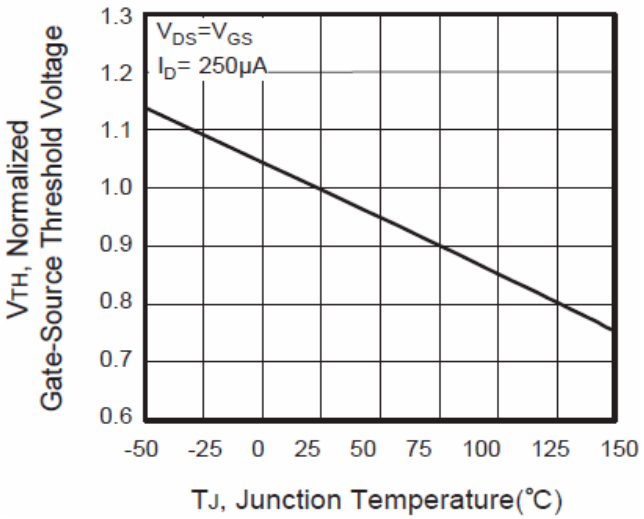


Figure9. Gate Charge Waveforms

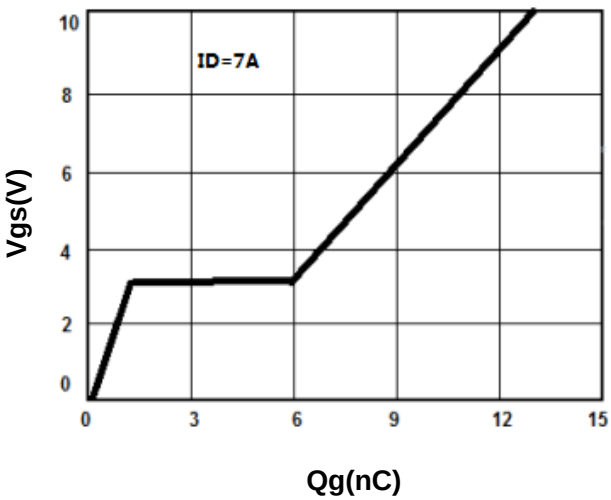


Figure10. Maximum Safe Operating Area

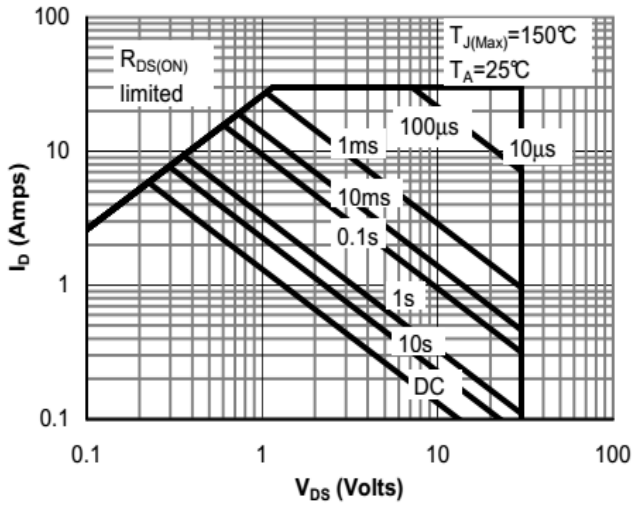
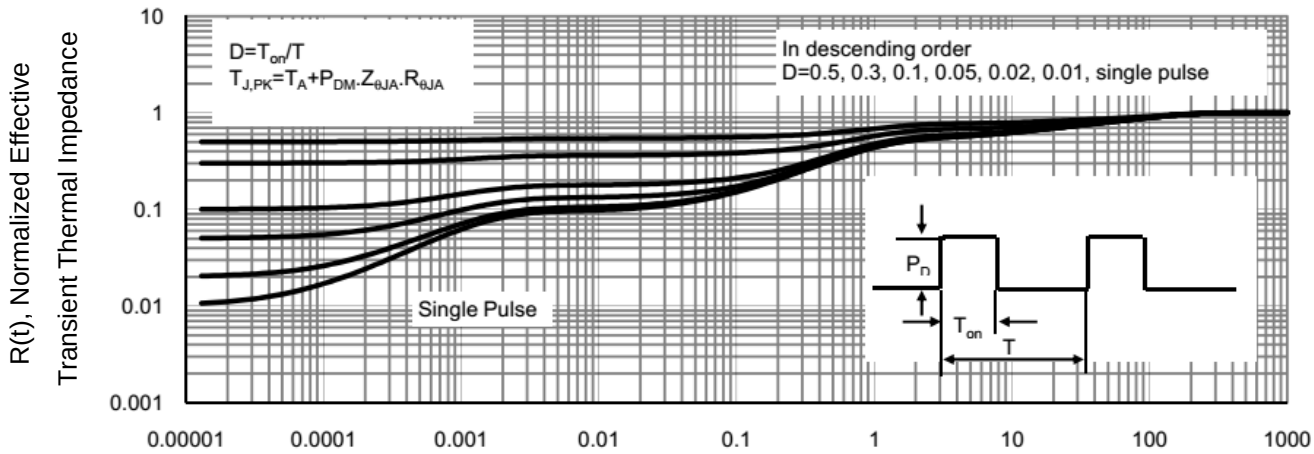
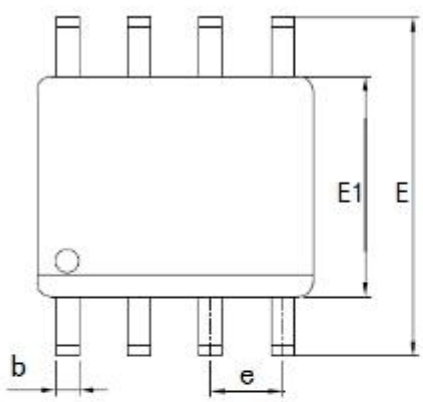
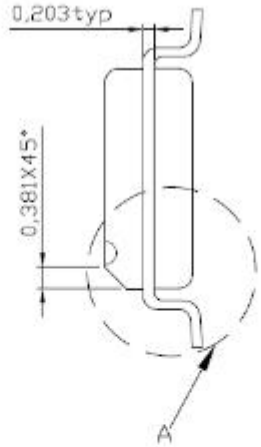


Figure11. Normalized Maximum Transient Thermal Impedance

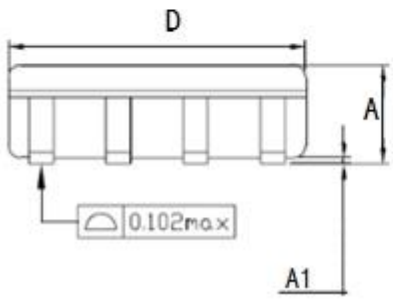


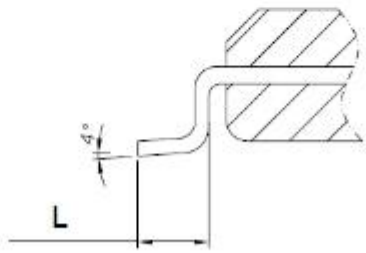
Square Wave Pluse Duration(sec)





COMMON DIMENSIONS			
SYMBO	mm		
L	MIN	NOM	MAX
A	1.35	1.55	1.75
A1	0.1	0.15	0.2
b	0.346	0.406	0.466
D	4.8	4.89	4.98
E	5.75	6.00	6.25
E1	3.81	3.90	3.99
e	1.27TYP		
L	0.406	0.838	1.27





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