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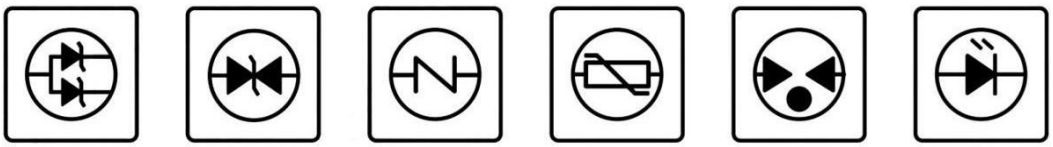
SEMICONDUCTOR



AON3419-MS

Product specification

Description

The AON3419-MS uses advanced trench technology and design to provide excellent RDS(ON) with low gate charge .Thisdevice is well suited for high current load applications.

Features

V_{DS} =-30V,I_D =-32A

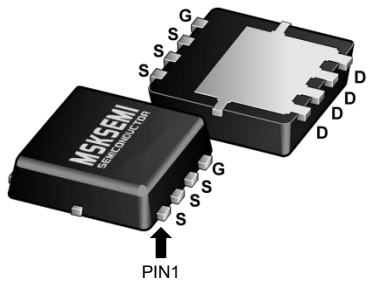
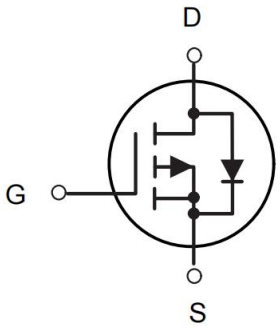
$R_{DS(ON)}$ <12mΩ @ V_{GS}=-10V

$R_{DS(ON)}$ <18mΩ @ V_{GS}=-4.5V

Application

- High side switch for full bridge converter
- DC/DC converter for LCD display

Reference News

PACKAGE OUTLINE	P-Channel MOSFET	Marking
		
DFN3X3-8L		

Absolute Maximum Ratings (TC=25℃ unless otherwise specified)

Symbol	Parameter	Rating	Units
VDS	Drain-Source Voltage	-30	V
VGS	Gate-Source Voltage	±25	V
I_D@T_A=25℃	Drain Current[3], V_{GS} @ 10V	-32	A
I_D@T_A=70℃	Drain Current[3], V_{GS} @ 10V	-9.8	A
IDM	Pulsed Drain Current[1]	-65	A
P_D@T_A=25℃	Total Power Dissipation	3.57	W
TSTG	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃
Rthj-c	Maximum Thermal Resistance, Junction-case	6	℃/W
Rthj-a	Maximum Thermal Resistance, Junction-ambient[3]	35	℃/W

Electrical Characteristics (TJ=25 ℃, unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=-250uA	-30	-	-	V
RDS(ON)	Static Drain-Source On-Resistance[2]	V_{GS}=- 10V, I_D=- 15A	-	10	12	mΩ
		V_{GS}=-4.5V, I_D=- 10A	-	14	18	mΩ
VGS(th)	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=-250uA	-1	1.95	-2.5	V
g_{fs}	Forward Transconductance	V_{DS}=- 10V, I_D=-6A	-	19	-	S
IDSS	Drain-Source Leakage Current	V_{DS}=-24V, V_{GS}=0V	-	-	-30	uA
IGSS	Gate-Source Leakage	V_{GS}=±20V, V_{DS}=0V	-	-	±100	nA
Q_g	Total Gate Charge	I_D=- 15A	-	12.5	24	nC
Q_{gs}	Gate-Source Charge	V_{DS}=- 15V	-	5.4	-	nC
Q_{gd}	Gate-Drain ("Miller") Charge	V_{GS}=-4.5V	-	5	-	nC
td(on)	Turn-on Delay Time	V_{DS}=- 15V	-	4.4	-	ns
t_r	Rise Time	I_D=- 15A	-	11.2	-	ns
td(off)	Turn-off Delay Time	R_G=3.3Ω	-	34	-	ns
t_f	Fall Time	V_{GS}=- 10V	-	18	-	ns
C_{iss}	Input Capacitance	V_{GS}=0V	-	1345	2000	pF
Coss	Output Capacitance	V_{DS}=- 15V f=1.0MHz	-	194	-	pF
C_{rss}	Reverse Transfer Capacitance		-	158	-	pF
trr	Reverse Recovery Time	I_S=- 15A, V_{GS}=0V, dI/dt=100A/μs	-	12.4	-	ns
Q_{rr}	Reverse Recovery Charge		-	5	-	nC

Notes:

1.Pulse width limited by Max. junction temperature.

2.Pulse test

Typical Characteristics

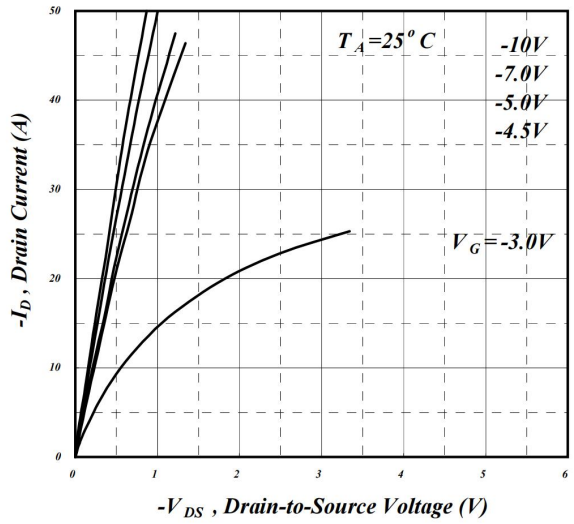


Fig.1 Typical Output Characteristics

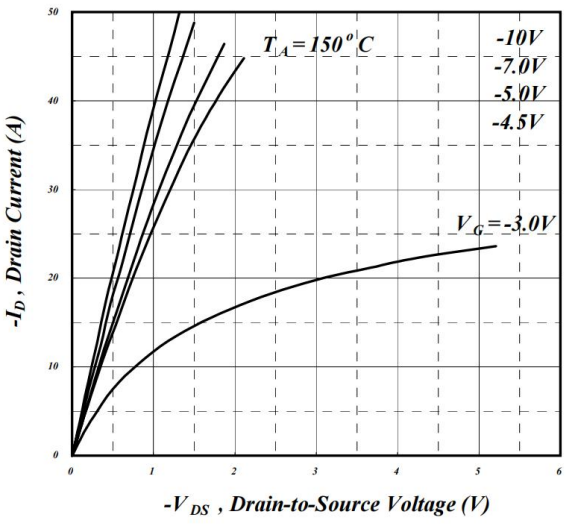


Fig 2. Typical Output Characteristics

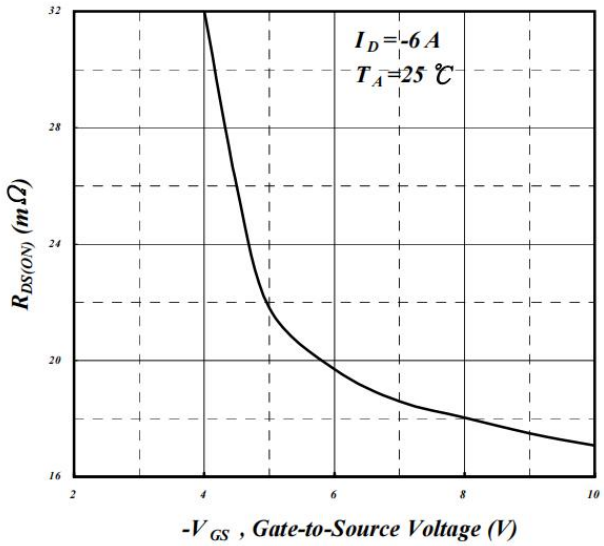


Fig 3. On-Resistance v.s. Gate Voltage

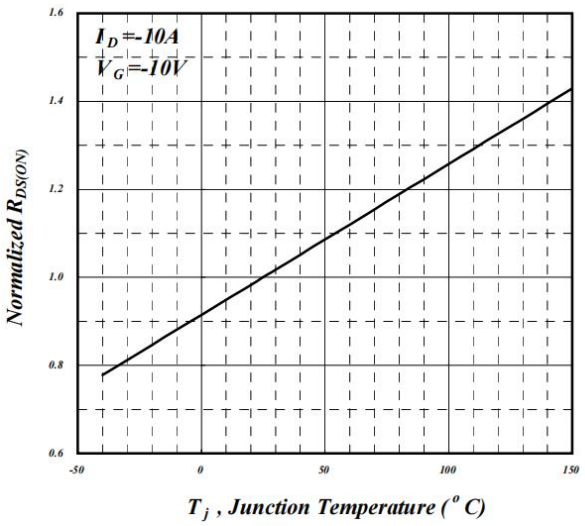


Fig 4. Normalized On-Resistance v.s. Junction Temperature

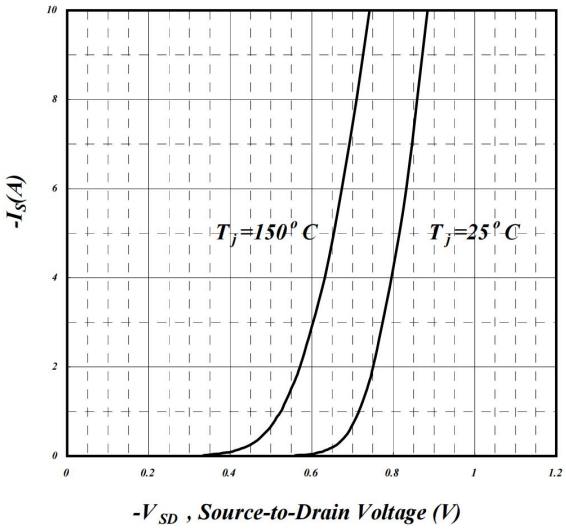


Fig 5. Forward Characteristic of Reverse Diode

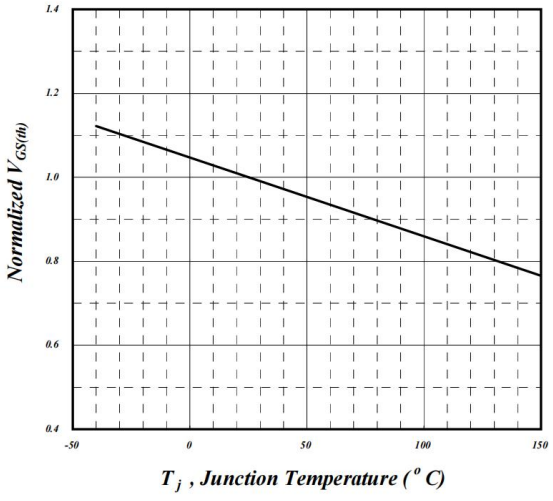


Fig 6. Gate Threshold Voltage v.s. Junction Temperature

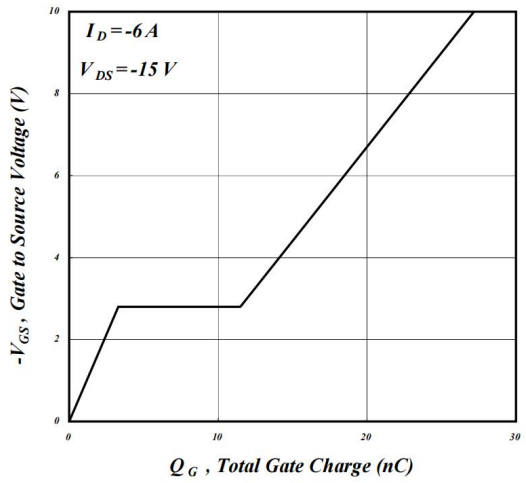


Fig 7. Gate Charge Characteristics

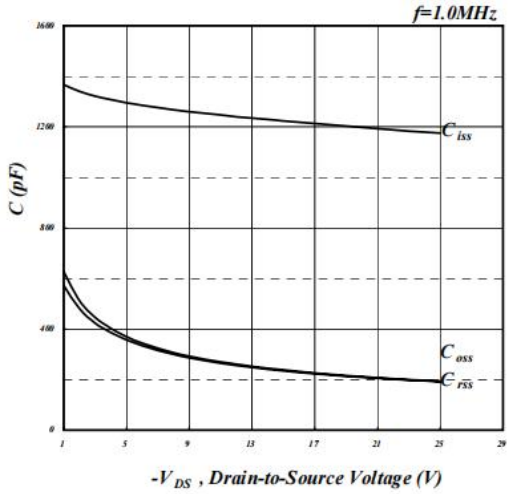


Fig 8. Typical Capacitance Characteristics

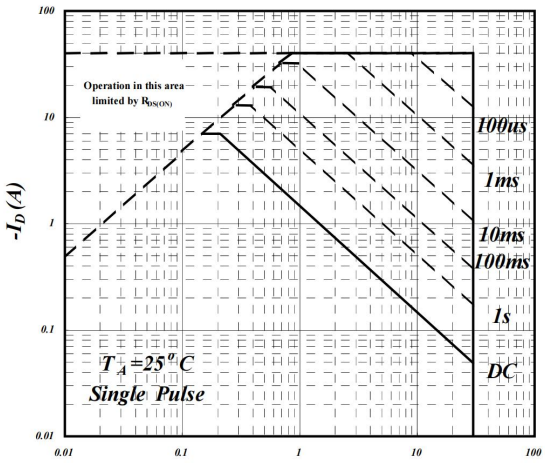


Fig 9. Maximum Safe Operating Area

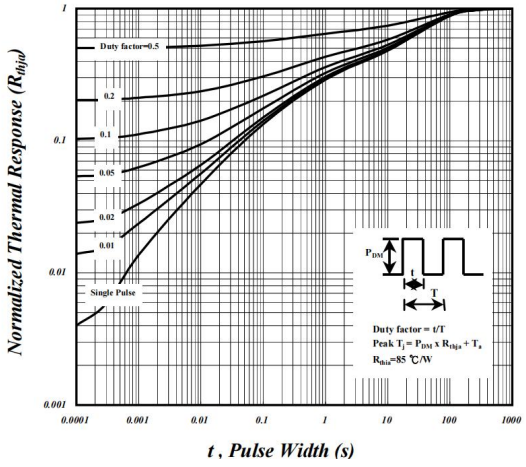


Fig 10. Effective Transient Thermal Impedance

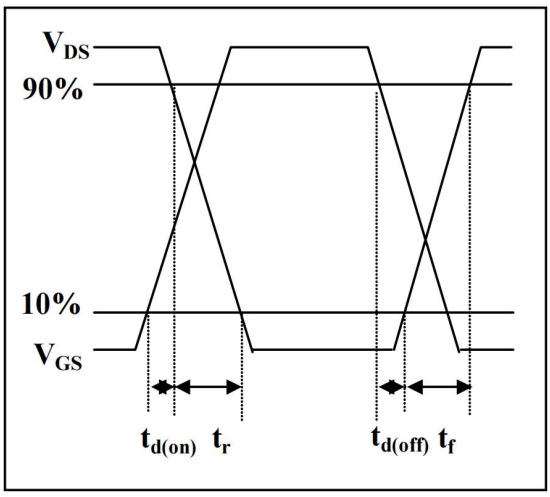


Fig 11. Switching Time Waveform

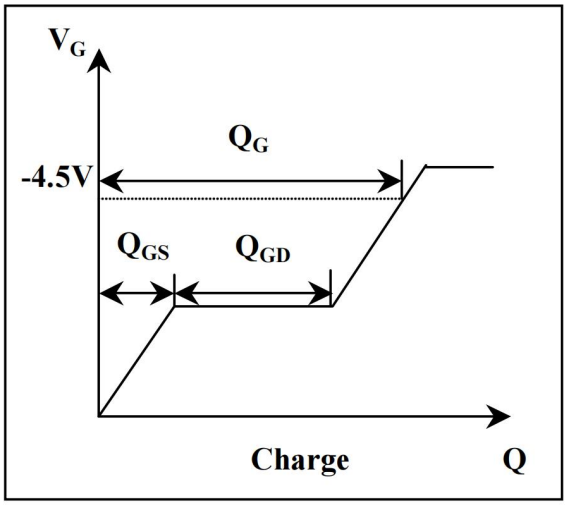
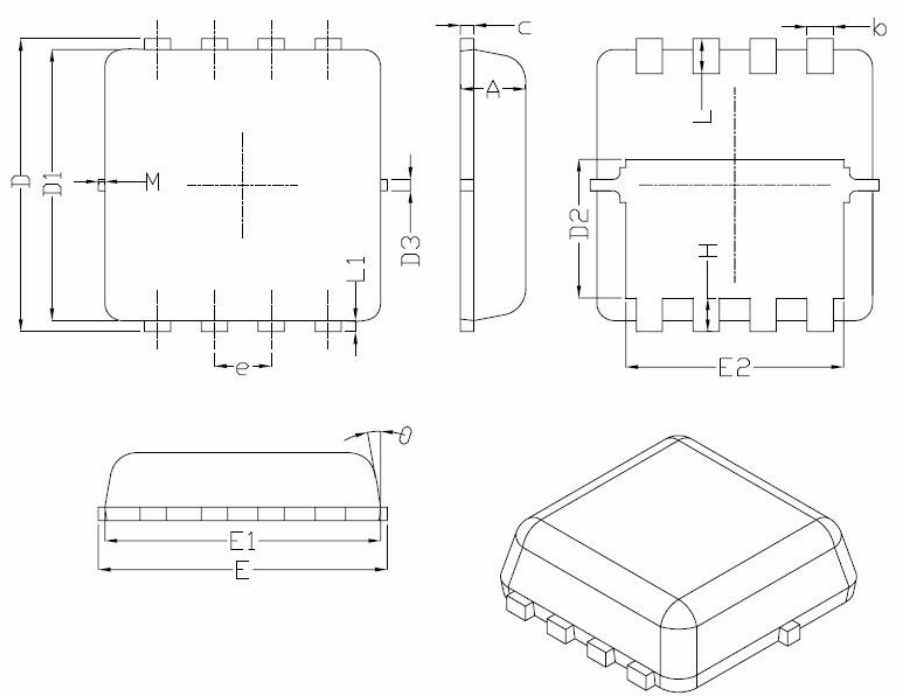


Fig 12. Gate Charge Waveform

DFN3X3-8L Package Information



Symbol	Dimensions In Millimeters		
	Min.	Nom.	Max.
A	0.70	0.75	0.80
b	0.25	0.30	0.35
c	0.10	0.15	0.25
D	3.25	3.35	3.45
D1	3.00	3.10	3.20
D2	1.48	1.58	1.68
D3	-	0.13	-
E	3.20	3.30	3.40
E1	3.00	3.15	3.20
E2	2.39	2.49	2.59
e	0.65BSC		
H	0.30	0.39	0.50
L	0.30	0.40	0.50
L1	-	0.13	-
M	*	*	0.15
θ		10°	12°

REEL SPECIFICATION

P/N	PKG	QTY
AON3419-MS	DFN3X3-8L	5000

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