



Product Specification

DFN3X3-8L AON7264E

N-Channel Enhancement Mode MOSFET

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Descriptions

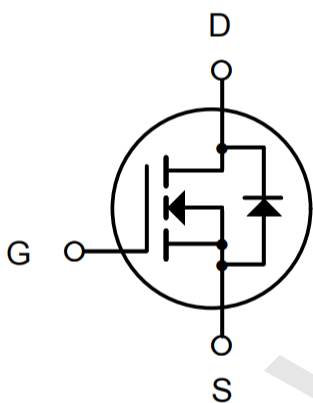
The AON7264E uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge and operation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application.

Features

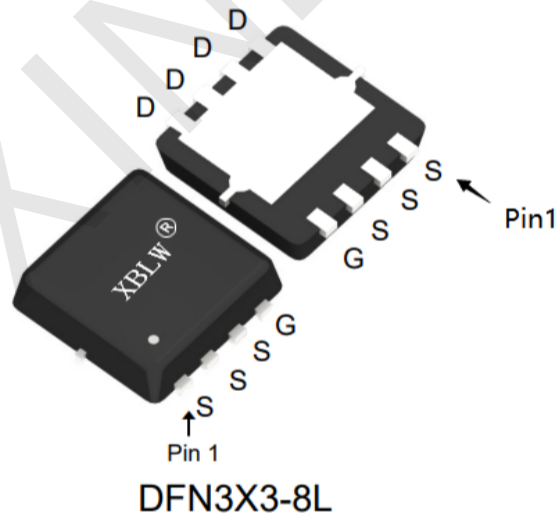
- $V_{DS} = 60V, I_D = 40A$
- $R_{DS(ON)} < 15m\Omega$ @ $V_{GS} = -10V$

Applications

- Battery protection
- Load switch
- Uninterruptible power supply



N-Channel MOSFET



Ordering Information

Product Model	Package Type	Marking	Packing	Packing Qty
AON7426	DFN3X3-8L	AON7426	Tape	5000Pcs/Reel

Absolute Maximum Ratings ($T_C=25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Symbol	Paramete	Rating	Units
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_A=25^{\circ}\text{C}$	Continuous Drain Current, V_{GS} @ 10V ¹	40	A
$I_D@T_A=100^{\circ}\text{C}$	Continuous Drain Current, V_{GS} @ 10V ¹	20	A
I_{DM}	Pulsed Drain Current ²	150	A
EAS	Single Pulse Avalanche Energy ³	36	mj
$P_D@T_C=25^{\circ}\text{C}$	Total Power Dissipation ⁴	30	W
TSTG	Storage Temperature Range	-55 to 150	$^{\circ}\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^{\circ}\text{C}$
R_{thJA}	Thermal Resistance Junction-ambient ¹	62	$^{\circ}\text{C}/\text{W}$
R_{thJC}	Thermal Resistance Junction-Case ¹	2.5	$^{\circ}\text{C}/\text{W}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	60	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =60V, V _{GS} =0V,	-	-	1.0	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	1.6	2.5	V
R _{DS(on)}	Static Drain-Source on-Resistance note3	V _{GS} = 10V, I _D =20A	-	12	15	mΩ
		V _{GS} =4.5V, I _D =10A	-	15	20	
Dynamic Characteristics						
C _{iSS}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1.0MHz	-	930	-	pF
C _{oSS}	Output Capacitance		-	230	-	pF
C _{rSS}	Reverse Transfer Capacitance		-	8	-	pF
Q _g	Total Gate Charge	V _{DS} =30V, I _D =20A, V _{GS} =10V	-	22	-	nC
Q _{gs}	Gate-Source Charge		-	4.5	-	nC
Q _{gd}	Gate-Drain("Miller") Charge		-	3.5	-	nC
Switching Characteristics						
t _{d(on)}	Turn-on Delay Time	V _{DD} =30V, I _D =20A, R _G =1.6Ω, V _{GS} =10V	-	4.5	-	ns
t _r	Turn-on Rise Time		-	2.7	-	ns
t _{d(off)}	Turn-off Delay Time		-	13.8	-	ns
t _f	Turn-off Fall Time		-	2.7	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I _S	Maximum Continuous Drain to Source Diode Forward Current		-	-	40	A
I _{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	150	A
V _{SD}	Drain to Source Diode Forward Voltage	V _{GS} =0V, I _S =30A	-	-	1.2	V
t _{rr}	Body Diode Reverse Recovery Time	T _J =25°C, I _F =20A, dI/dt=100A/μs	-	18	-	ns
Q _{rr}	Body Diode Reverse Recovery Charge		-	12	-	nC

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

2. EAS condition: T_J=25°C, V_{DD}=30V, V_G=10V, R_G=25Ω, L=0.5mH, I_{AS}=12A.

3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%.

Typical Characteristics

Fig 1. Output Characteristics

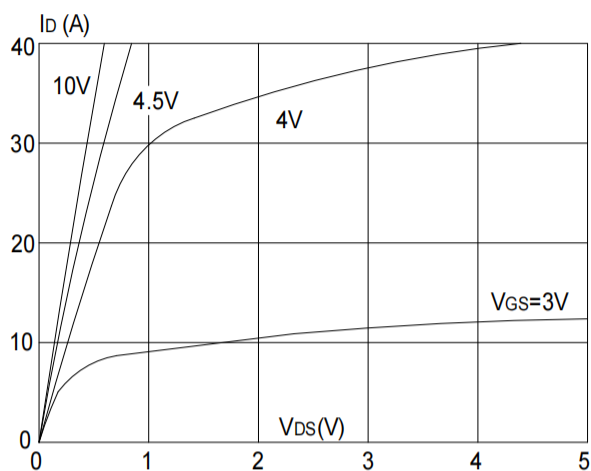


Fig 2. Typical Transfer Characteristics

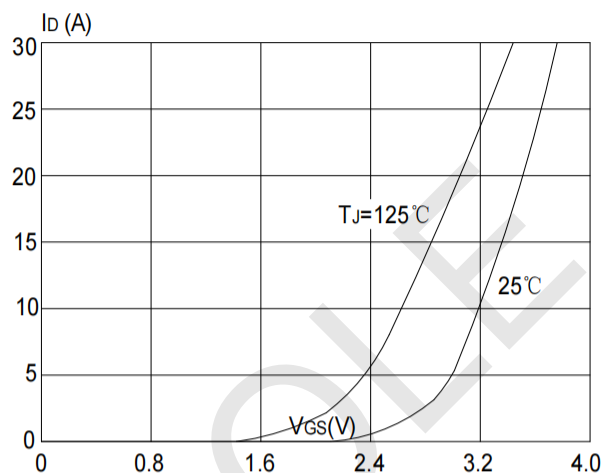


Fig 3. On-resistance vs.rain Current

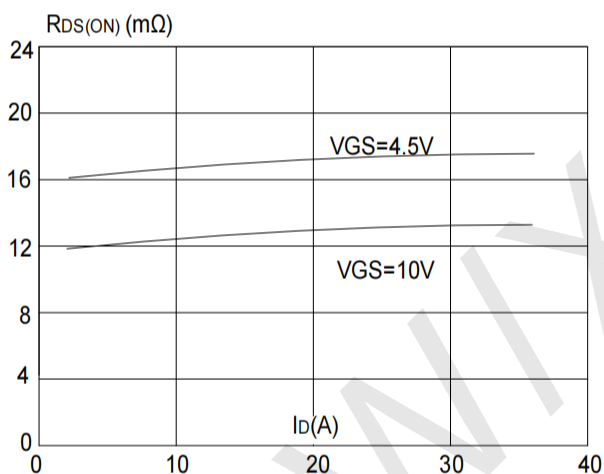


Fig 4. Body Diode Characteristics

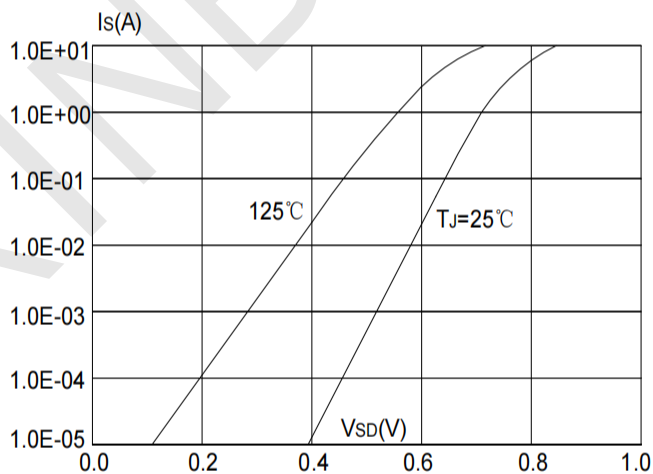


Fig 5.Gate Charge Characteristics

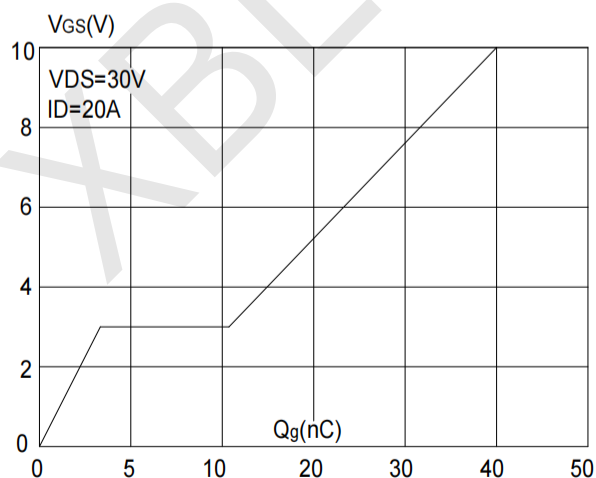


Fig 6. Capacitance Characteristics

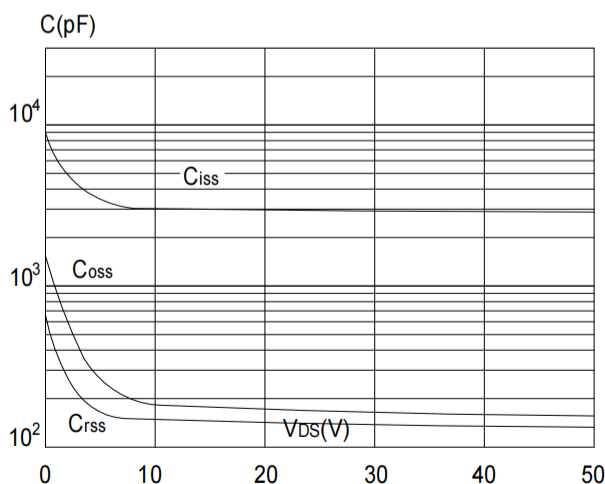


Fig 7. Normalized Breakdown Voltage vs. Junction Temperature

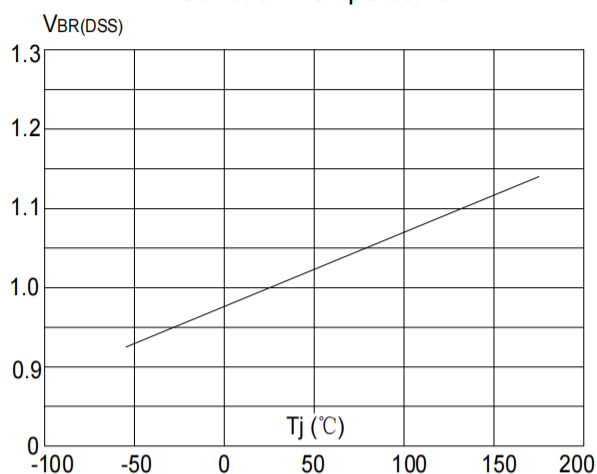


Fig 8. Normalized on Resistance vs. Junction Temperature

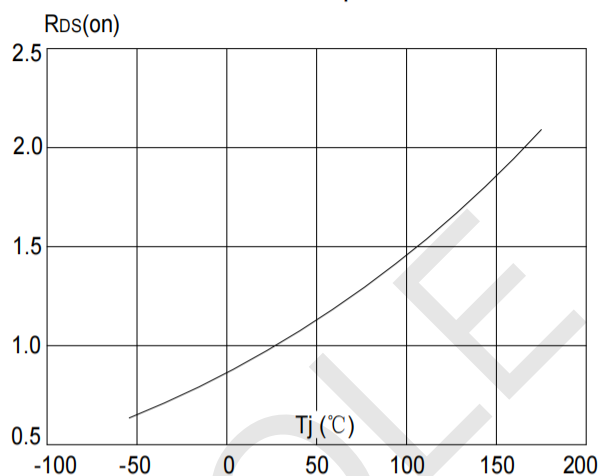


Fig 9. Maximum Safe Operating Area

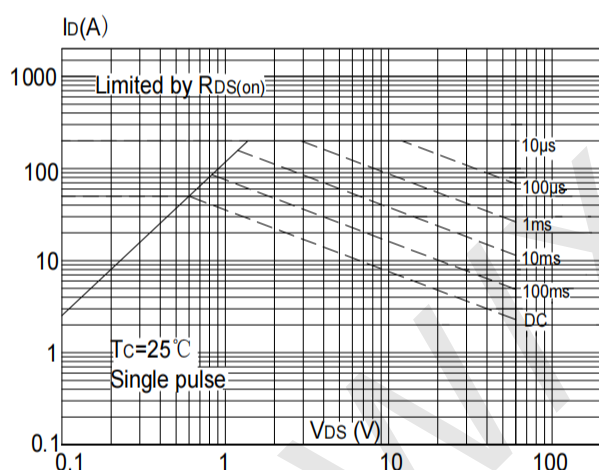


Fig 10. Maximum Continuous Drain Current vs. Case Temperature

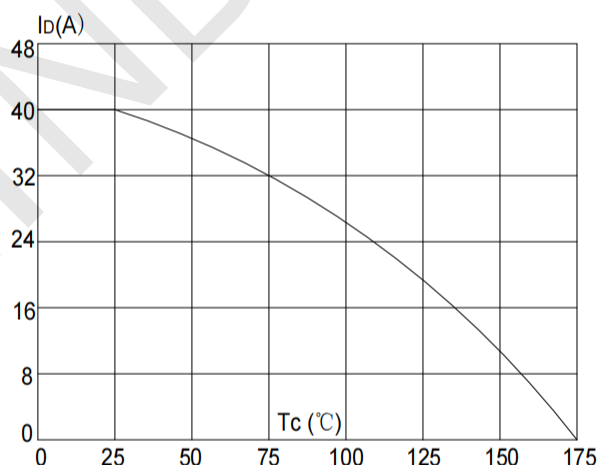
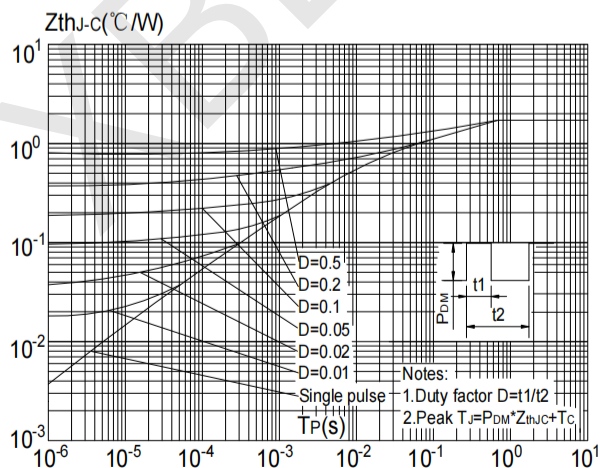
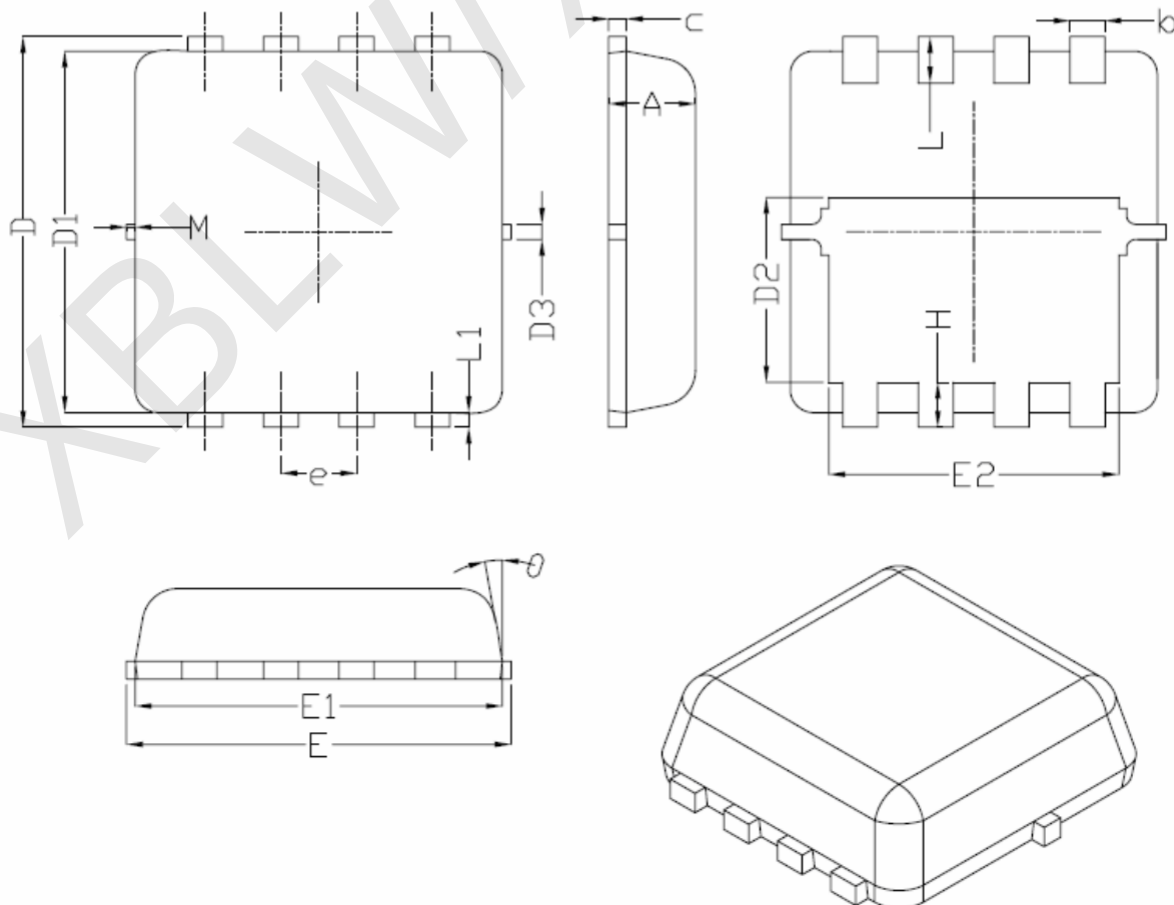


Fig 11. Maximum Effective Transient Thermal Impedance, Junction-to-Case



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°



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