

Features

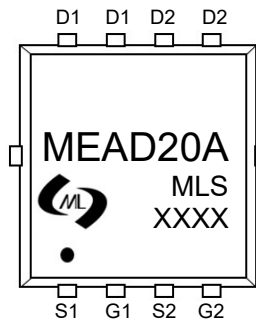
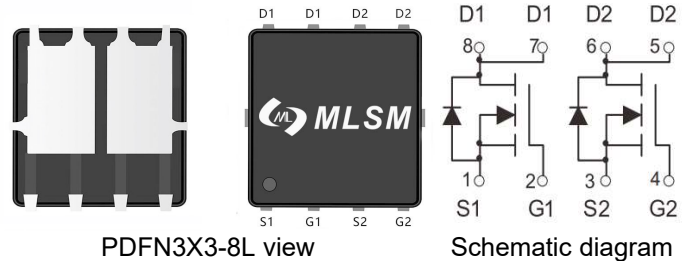
- High density cell design for ultra low $R_{DS(on)}$
- Fully characterized Avalanche voltage and current
- Excellent package for good heat dissipation

Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
30V	20m Ω @10V	20A
	27m Ω @4.5V	

Application

- Power switching application
- Hard Switched and High Frequency Circuits
- Uninterruptible Power Supply



MEAD20A: Device code
XXXX: Code

Marking and pin assignment



Halogen-Free

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

Symbol	Parameter	Rating	Unit
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Common Ratings ($T_C=25^{\circ}\text{C}$ Unless Otherwise Noted)

V_{DS}	Drain-Source Breakdown Voltage	30	V
V_{GS}	Gate-Source Voltage	± 20	V
T_J	Maximum Junction Temperature	150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range	-50 to 155	$^{\circ}\text{C}$
I_S	Diode Continuous Forward Current	$T_C=25^{\circ}\text{C}$ 20	A

Mounted on Large Heat Sink

I_{DM}	Pulse Drain Current Tested	$T_C=25^{\circ}\text{C}$ 110	A
I_D	Continuous Drain Current	$T_C=25^{\circ}\text{C}$ 20	A
P_D	Maximum Power Dissipation	$T_C=25^{\circ}\text{C}$ 35	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient	41.8	$^{\circ}\text{C/W}$

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MEAD20A	PDFN3X3-8L	MEAD20A	5,000	10,000	70,000	13"reel

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

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
BV _{(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-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	1.0	1.5	2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =20A	--	15	20	mΩ
		V _{GS} =4.5V, I _D =10A	--	20	27	mΩ

Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise stated)

C _{ISS}	Input Capacitance	V _{DS} =15V, V _{GS} =0V, f=1MHz	--	1000	--	pF
C _{OSS}	Output Capacitance		--	180	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	165	--	pF

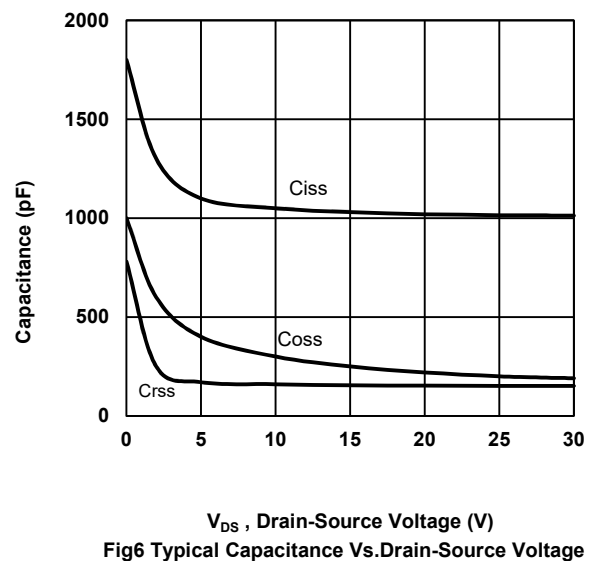
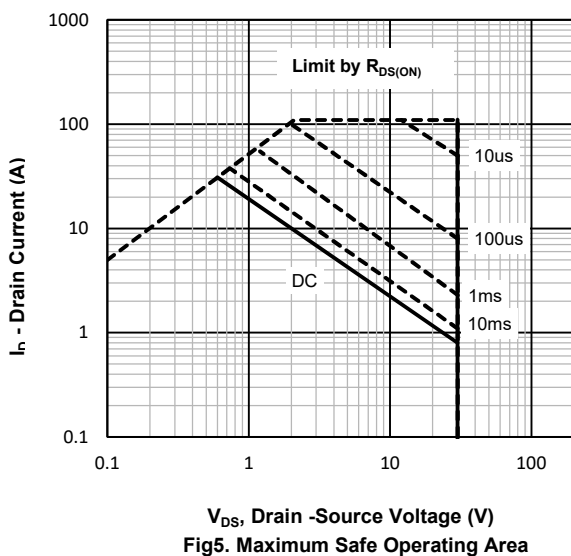
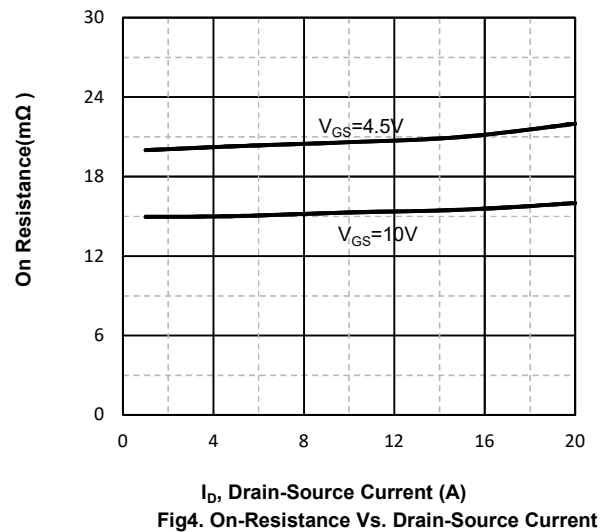
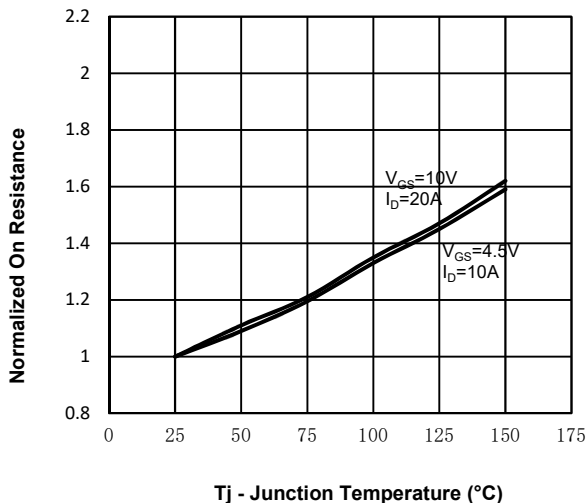
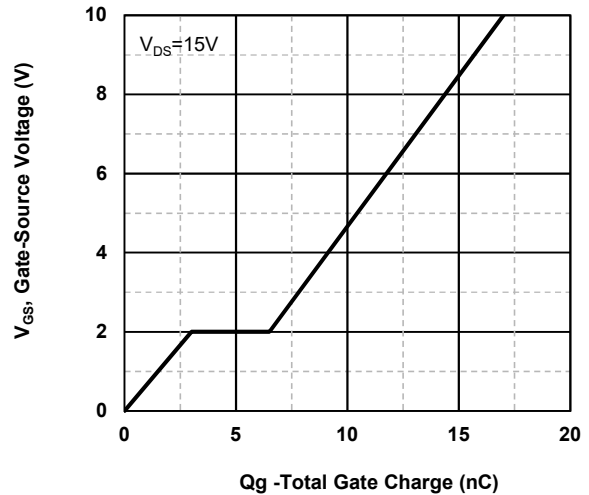
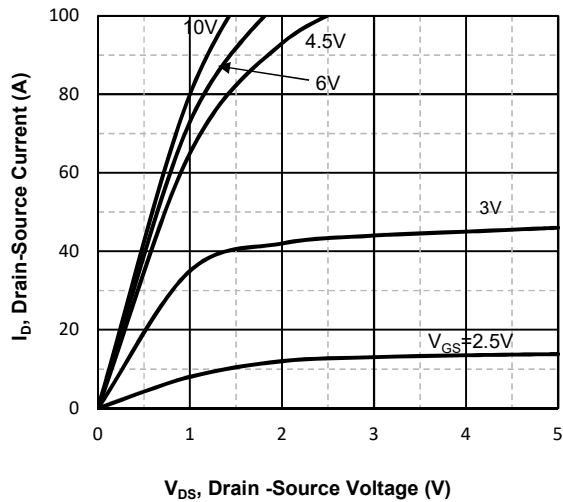
Switching Characteristics

Q _g	Total Gate Charge	V _{DS} =15V, I _D =20A, V _{GS} =10V	--	17	--	nC
Q _{gs}	Gate Source Charge		--	3	--	nC
Q _{gd}	Gate Drain Charge		--	4	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DS} =15V, I _D =3A, V _{GS} =10V, R _G =2Ω	--	5	--	nS
t _r	Turn-on Rise Time		--	12	--	nS
t _{d(off)}	Turn-Off Delay Time		--	20	--	nS
t _f	Turn-Off Fall Time		--	6	--	nS

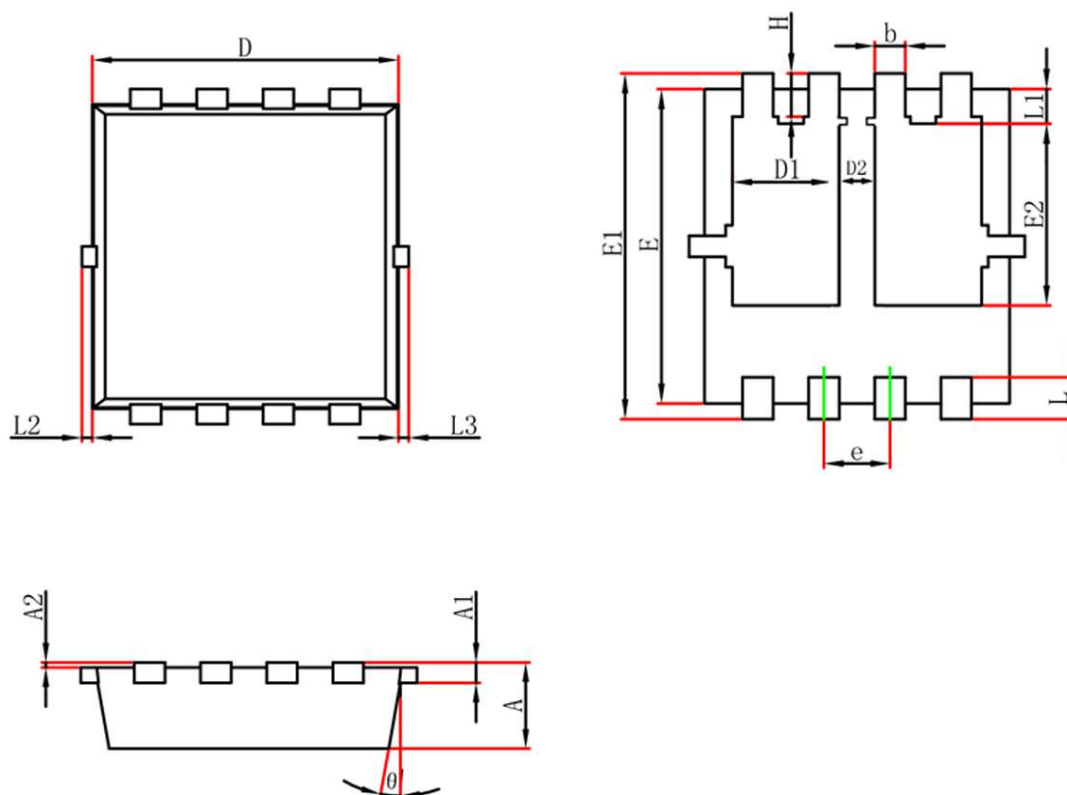
Source- Drain Diode Characteristics

V _{SD}	Forward on voltage	T _J =25°C, I _S =20A	--	--	1.2	V
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Typical Operating Characteristics



PDFN3X3-8L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.750	0.850	0.030	0.034
A1	0.152 REF.		0.006 REF.	
A2	0~0.05		0~0.002	
D	3.050	3.150	0.121	0.125
D1	0.985	1.085	0.039	0.043
D2	0.330	0.430	0.013	0.017
E	2.950	3.050	0.117	0.121
E1	3.250	3.350	0.129	0.132
E2	1.685	1.785	0.067	0.071
b	0.250	0.350	0.010	0.014
e	0.600	0.700	0.024	0.028
L	0.350	0.450	0.014	0.018
L1	0.280	0.380	0.011	0.015
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.350	0.450	0.014	0.018
θ	9°	13°	10°	12°