

Features

- Low $R_{DS(on)}$ & FOM
- Extremely low switching loss
- Split gate trench MOSFET technology
- Fast switching and soft recovery

Application

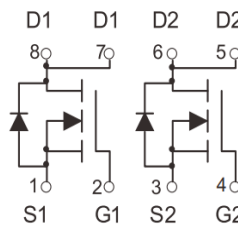
- Consumer electronic power supply
- Motor control
- Synchronous-rectification
- Isolated DC/DC convertor

Product Summary

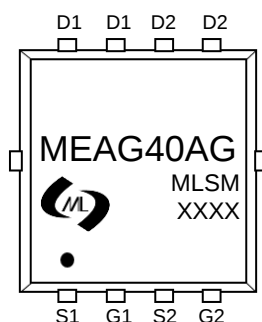
V_{DS}	$R_{DS(on)}$ TYP	I_D
60V	12.5m Ω @10V	40A
	16m Ω @4.5V	



PDFN3X3-8L view



Schematic diagram



MEAG40AG : Device code
XXXX : Code

Marking and pin assignment



Pb-Free



Halogen-Free

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Symbol	Parameter	Rating	Unit
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Common Ratings (TC=25°C Unless Otherwise Noted)

V_{DS}	Drain-Source Breakdown Voltage	60	V
V_{GS}	Gate-Source Voltage	± 20	V
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-50 to 155	°C
I_S	Diode Continuous Forward Current	$T_C=25^\circ\text{C}$ 40	A

Mounted on Large Heat Sink

I_{DM}	Pulse Drain Current Tested	$T_C=25^\circ\text{C}$ 120	A
I_D	Continuous Drain Current	$T_C=25^\circ\text{C}$ 40	A
$E_{AS}^{Note(1)}$	Single Pulse Avalanche Energy	56	mJ
P_D	Maximum Power Dissipation	$T_C=25^\circ\text{C}$ 19	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient	62	°C/W

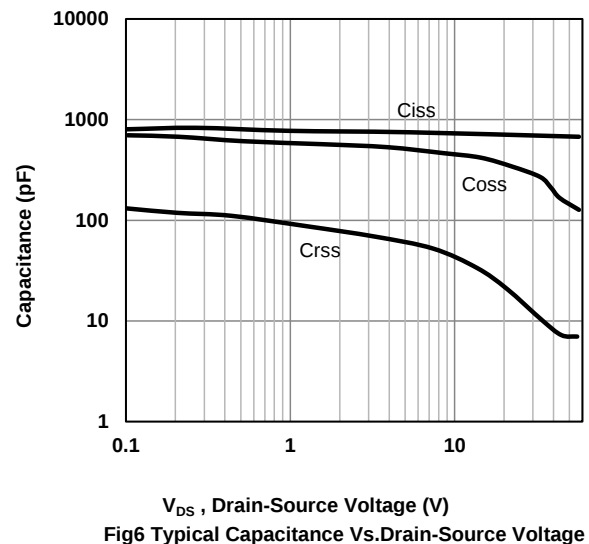
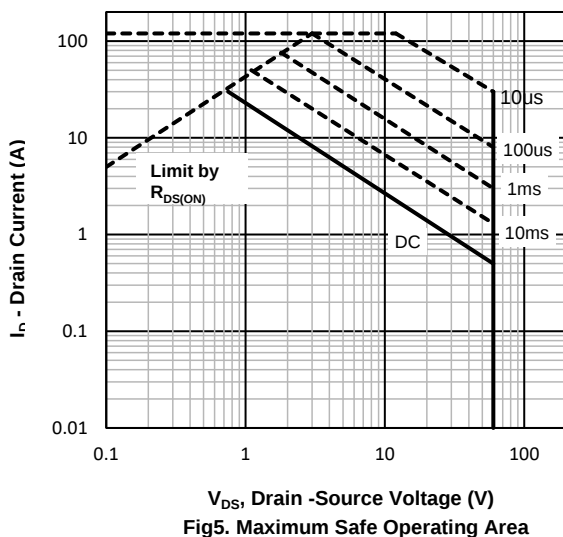
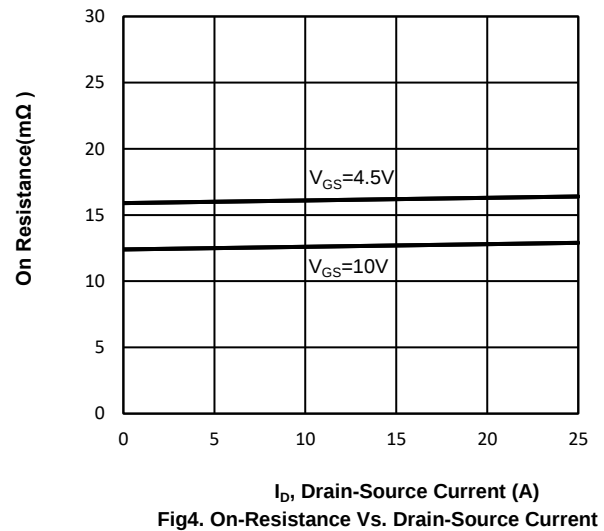
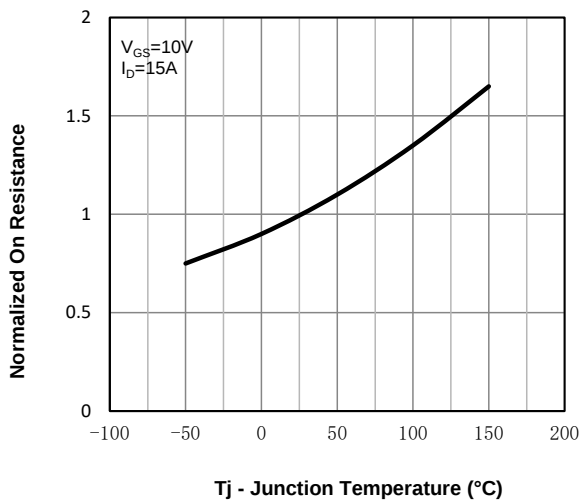
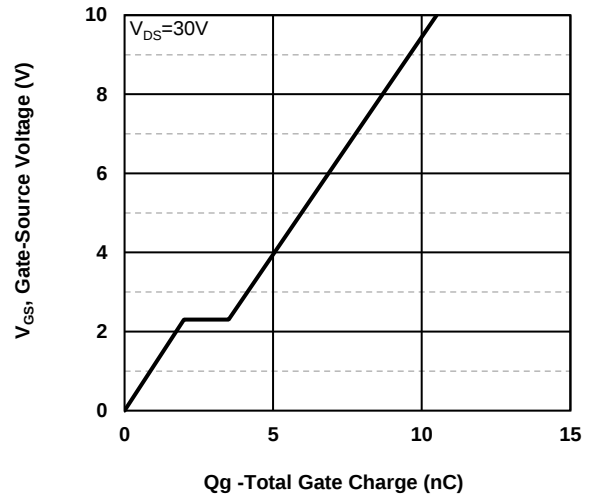
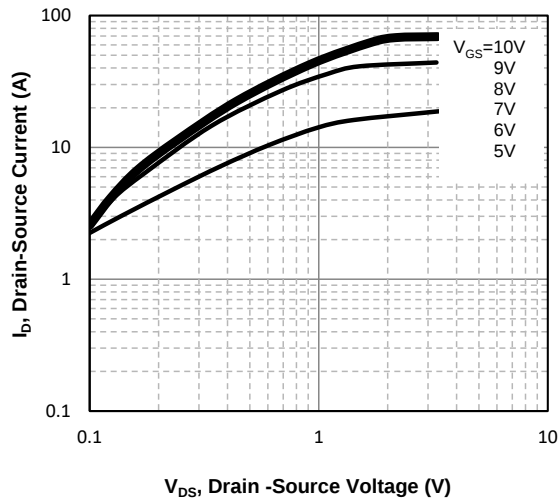
Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MEAG40AG	PDFN3X3-8L	MEAG40AG	5,000	10,000	70,000	13"reel

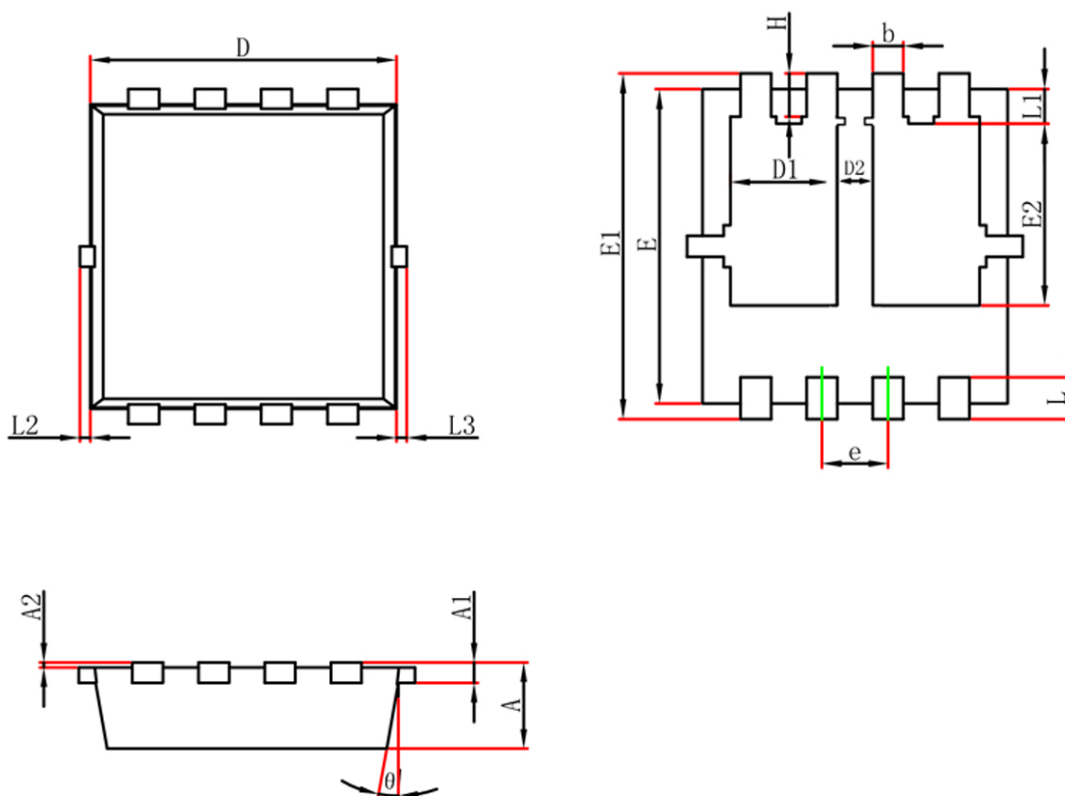
Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	60	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =60V, V _{GS} =0V	--	--	1.0	μA
I _{GSS}	Gate-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 =15A	--	12.5	16	mΩ
		V _{GS} =4.5V, I _D =10A	--	16	20	mΩ
Dynamic Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =30V, V _{GS} =0V, f=1MHz	--	610	--	pF
C _{OSS}	Output Capacitance		--	210	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	9	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =30V, I _D =15A, V _{GS} =10V	--	9.5	--	nC
Q _{gs}	Gate Source Charge		--	4.2	--	nC
Q _{gd}	Gate Drain Charge		--	1.3	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DS} =30V, I _D =15A, V _{GS} =10V, R _G =3Ω	--	3.5	--	nS
t _r	Turn-on Rise Time		--	10.8	--	nS
t _{d(off)}	Turn-Off Delay Time		--	9.6	--	nS
t _f	Turn-Off Fall Time		--	4.3	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	Tj=25℃, Is=2A	--	--	1.2	V

Note(1):The EAS data shows Max. rating. The test condition is V_{DD}=30V ,L=0.5mH , R_G = 25Ω

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°