

Features

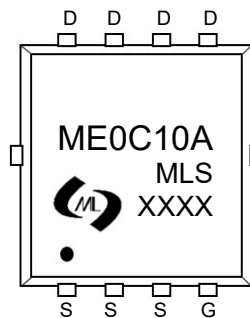
- High density cell design for ultra low $R_{DS(on)}$
- Fully characterized avalanche voltage and current
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation

Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
20V	18mΩ@4.5V	10A
	23mΩ@2.5V	

Application

- Load switching
- Hard switched and high frequency circuits
- Uninterruptible power supply



Marking and pin assignment

ME0C10A: Device code
XXXX: Code



PDFN3X3-8L view



Schematic diagram



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	20	V
V_{GS}	Gate-Source Voltage	±10	V
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-50 to 155	°C
I_S	Diode Continuous Forward Current	$T_c=25^\circ\text{C}$ 10	A

Mounted on Large Heat Sink

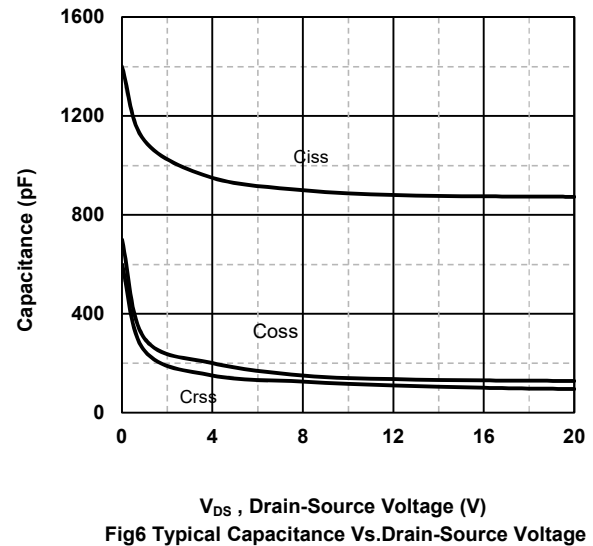
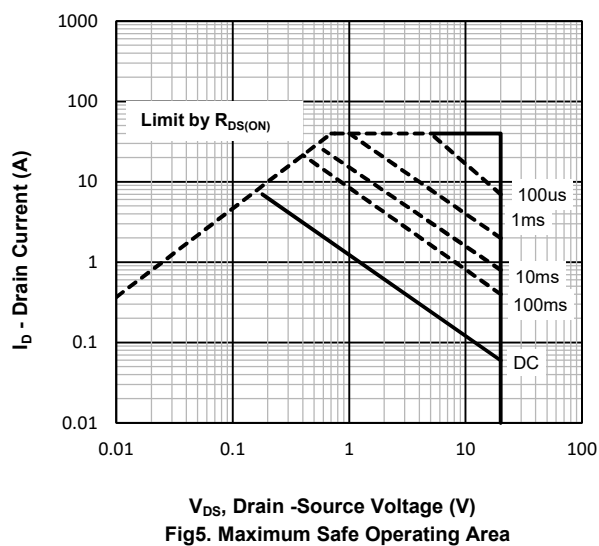
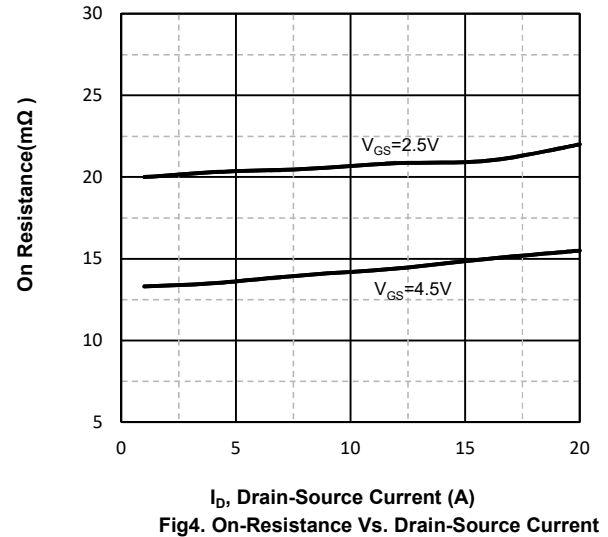
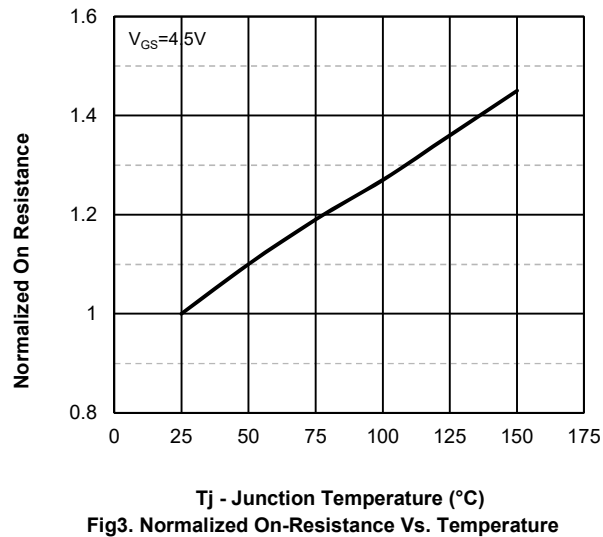
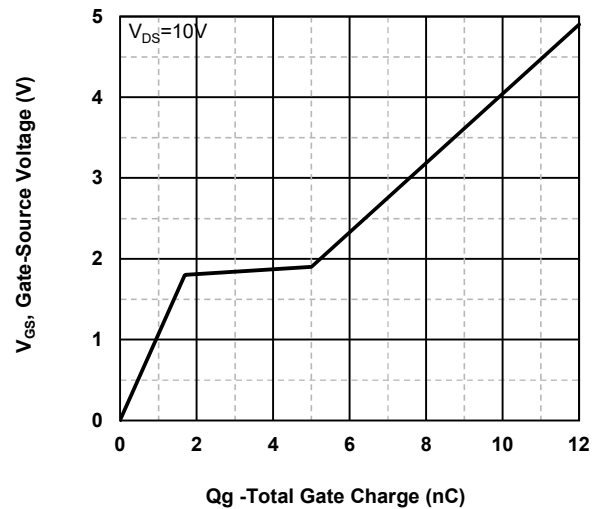
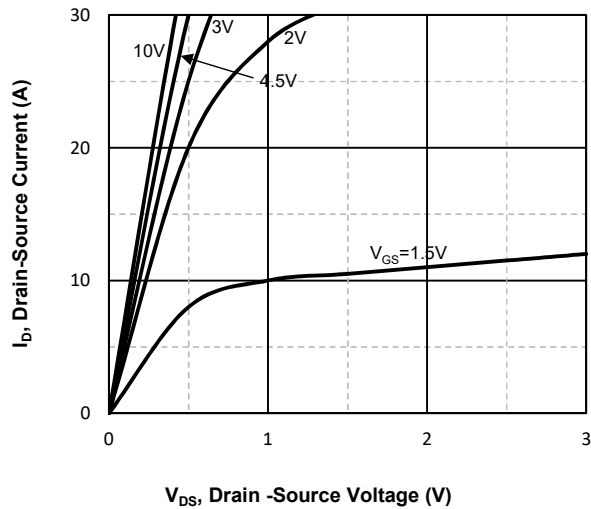
I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$ 40	A
I_D	Continuous Drain Current	$T_c=25^\circ\text{C}$ 10	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$ 23	W
$R_{\theta JA}$	Thermal Resistance Junction-to-Ambient	100	°C/ W

Ordering Information (Example)

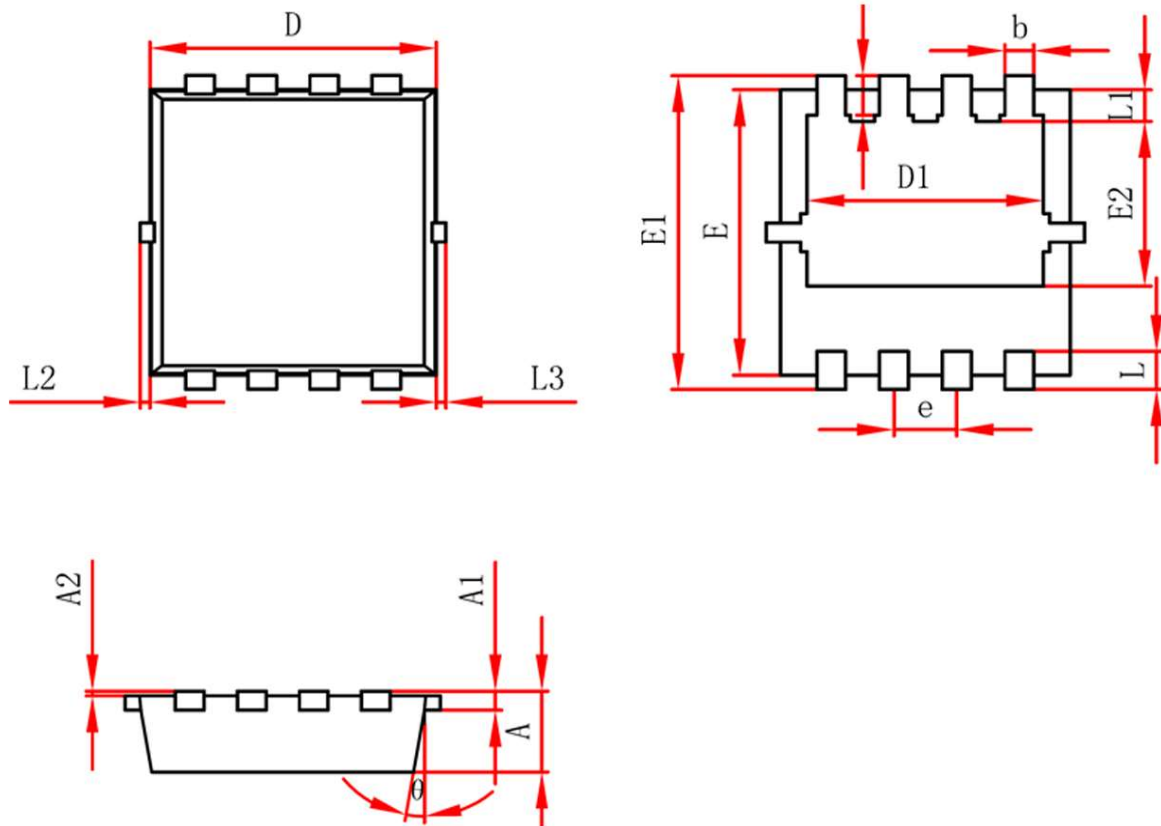
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
ME0C10A	PDFN3X3-8L	ME0C10A	5,000	10,000	70,000	13" reel

Electrical Characteristics (TJ=25°C unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
BV(BR)DSS	Drain-Source Breakdown Voltage	VGS=0V, ID=250μA	20	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=20V, VGS=0V	--	--	1	μA
IGSS	Gate-Body Leakage Current	VGS=±10V, VDS=0V	--	--	±100	nA
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	0.4	0.7	1.2	V
RDS(on)	Drain-Source On-State Resistance	VGS=4.5V, ID=10A	--	14	18	mΩ
		VGS=2.5V, ID=8A	--	18	23	mΩ
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
CISS	Input Capacitance	VDS=10V, VGS=0V, f=1MHz	--	885	--	pF
COSS	Output Capacitance		--	135	--	pF
CRSS	Reverse Transfer Capacitance		--	120	--	pF
Switching Characteristics						
Qg	Total Gate Charge	VDS=10V, ID=10A, VGS=4.5V	--	11	--	nC
Qgs	Gate Source Charge		--	1.75	--	nC
Qgd	Gate Drain Charge		--	3	--	nC
tD(on)	Turn-on Delay Time	VDD=10V, RL=1.5Ω, VGS=4.5V, RG=3Ω	--	7	--	nS
tR	Turn-on Rise Time		--	45	--	nS
tD(off)	Turn-Off Delay Time		--	30	--	nS
tF	Turn-Off Fall Time		--	50	--	nS
Source- Drain Diode Characteristics						
VSD	Forward on voltage	TJ=25°C, IS=10A	--	--	1.2	V

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	2.950	3.150	0.117	0.125
D1	2.400	2.500	0.095	0.099
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	0.325	0.425	0.013	0.017
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.365	0.465	0.014	0.018
θ	10°	12°	10°	12°