

Features

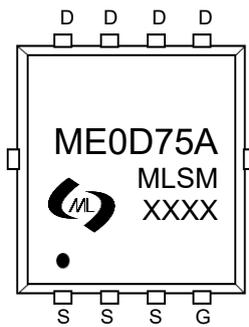
- Excellent package for good heat dissipation
- Ultra low gate charge
- Low reverse transfer capacitance
- Fast switching capability
- Avalanche energy specified

Application

- Power switching application

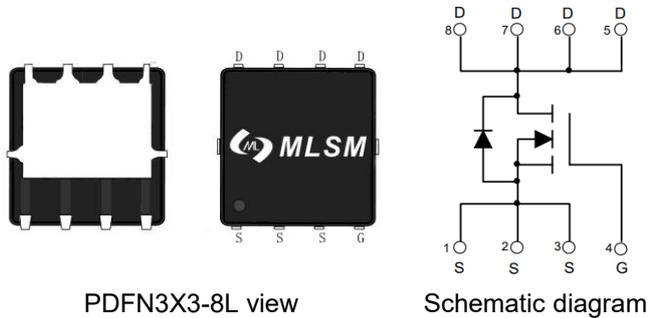
Product Summary

V_{DS}	$R_{DS(ON)}$ TYP	I_D
30V	3.0m Ω @10V	75A
	5.8m Ω @4.5V	



ME0D70A: Device code
 XXXX : Code

Marking and pin assignment



PDFN3X3-8L view

Schematic diagram



Halogen-Free

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

Symbol	Parameter	Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)			
V_{DS}	Drain-Source Breakdown Voltage	30	V
V_{GS}	Gate-Source Voltage	± 20	V
E_{AS}	Single Pulsed Avalanche Energy [Ⓞ]	225	mJ
T_J, T_{STG}	Operating and Storage Temperature Range	-50 to 155	°C
I_S	Diode Continuous Forward Current	$T_c=25^\circ\text{C}$ 75	A
Mounted on Large Heat Sink			
I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$ 285	A
I_D	Continuous Drain Current	$T_c=25^\circ\text{C}$ 75	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$ 70	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	39	°C/W

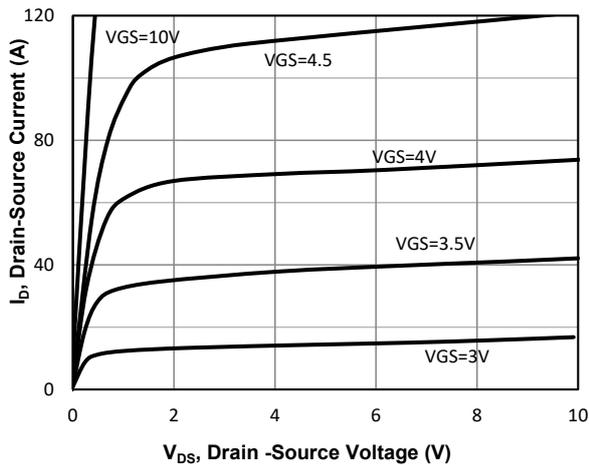
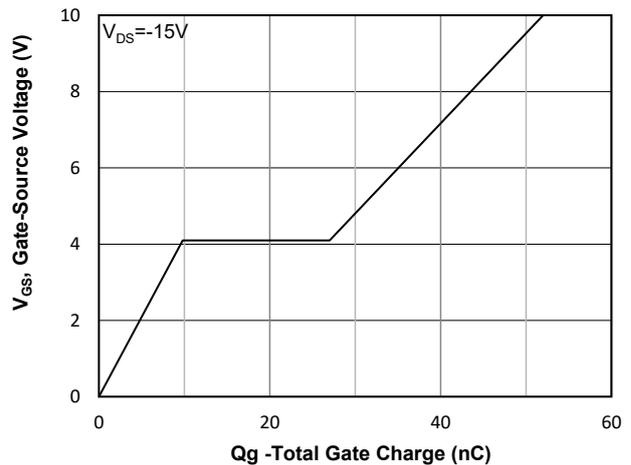
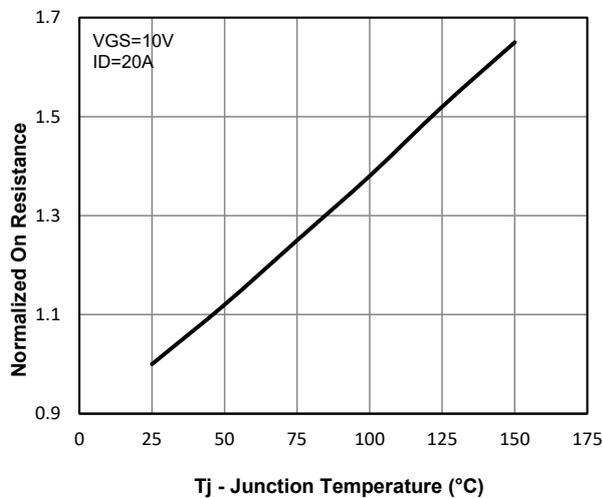
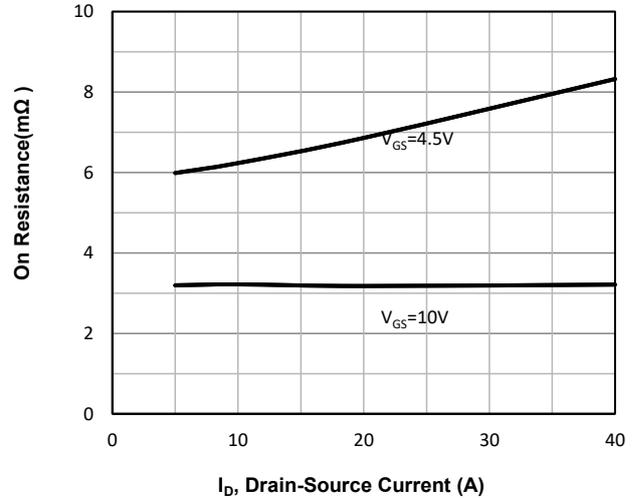
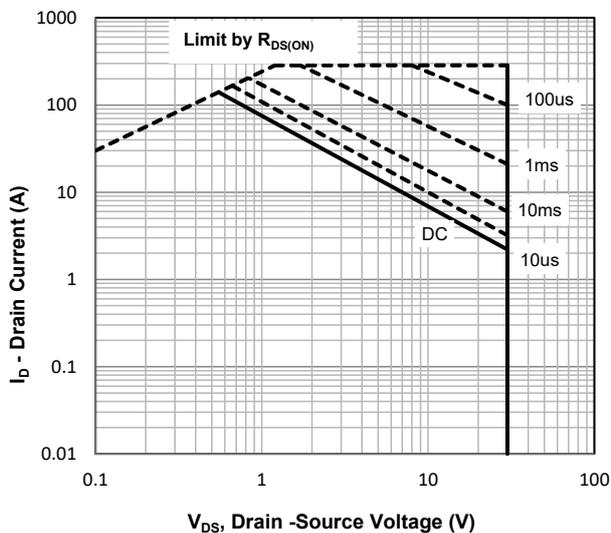
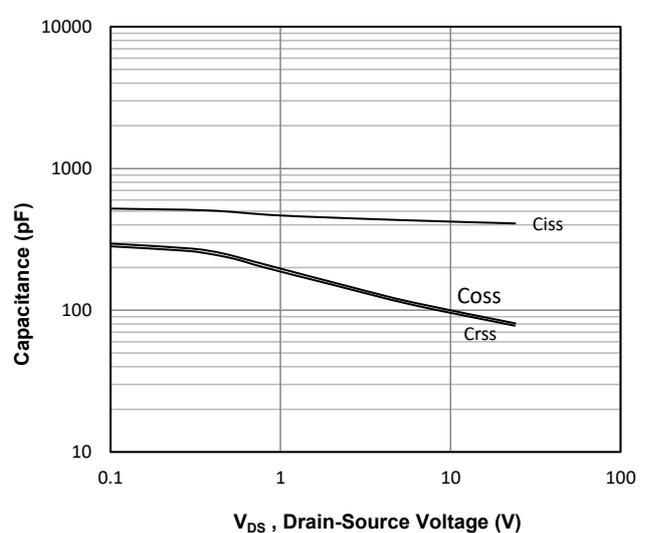
Ordering Information (Example)

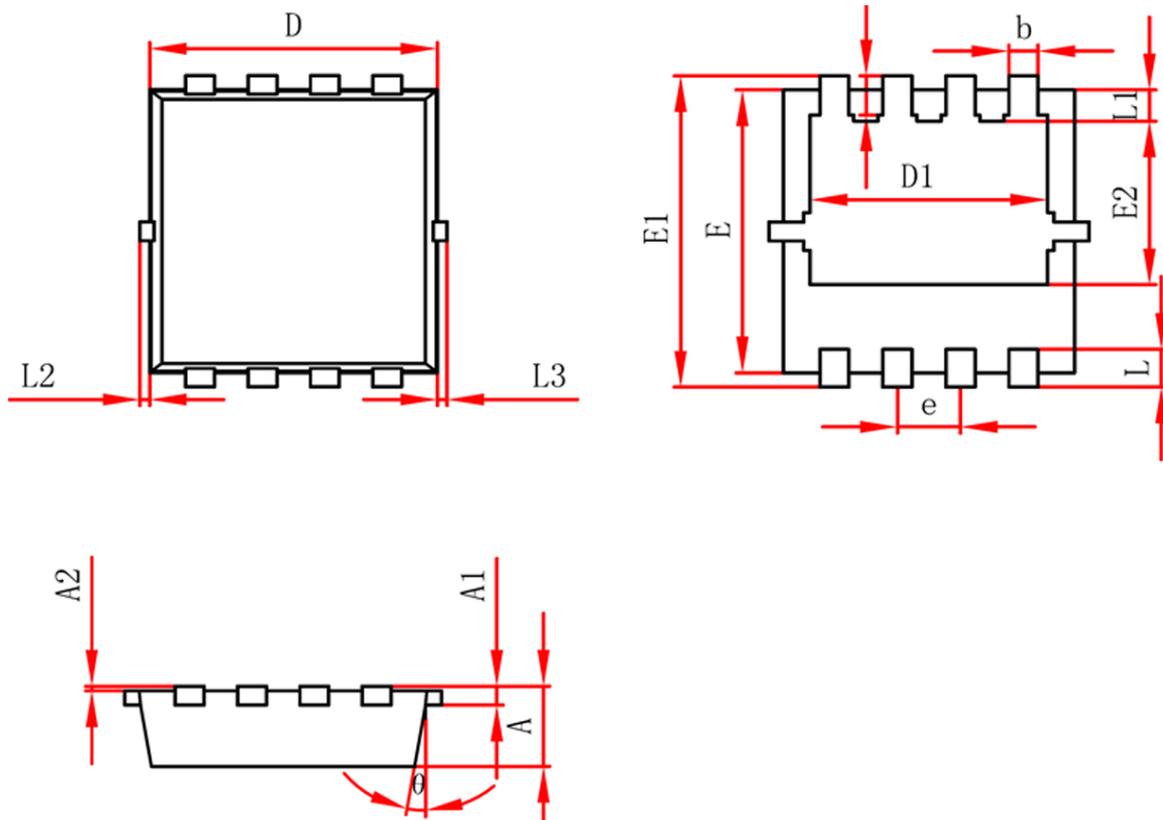
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
ME0D75A	PDFN3X3-8L	ME0D75A	5,000	10,000	70,000	13"reel

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	--	--	1.0	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	--	2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =20A	--	3	4	mΩ
		V _{GS} =4.5V, I _D =15A	--	5.8	7.5	mΩ
Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =15V, V _{GS} =0V, f=1MHz	--	2685	--	pF
C _{OSS}	Output Capacitance		--	263	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	247	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DD} =30V, I _D =20A, V _{GS} =10V	--	52	--	nC
Q _{gs}	Gate Source Charge		--	10	--	nC
Q _{gd}	Gate Drain Charge		--	18	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =15V, I _D =20A, V _{GS} =4.5V, R _G =1.8Ω	--	12	--	nS
t _r	Turn-on Rise Time		--	230	--	nS
t _{d(off)}	Turn-Off Delay Time		--	34	--	nS
t _f	Turn-Off Fall Time		--	140	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _j =25°C, I _s =20A	--	--	1.2	V

Note:

1、L=0.5mH, V_{DD}=30V, V_{GS}=10V, R_G=25Ω, Starting T_J=25°C

Typical Operating Characteristics

Fig1. Typical Output Characteristics

Fig2. Typical Gate Charge Vs. Gate-Source Voltage

Fig3. Normalized On-Resistance Vs. Temperature

Fig4. On-Resistance Vs. Drain-Source Current

Fig5. Maximum Safe Operating Area

Fig6. Typical Capacitance Vs. Drain-Source Voltage

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°