

Features

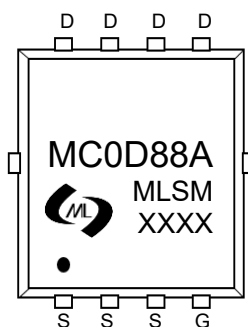
- Trench Power LV MOSFET technology
- High Power and Current handling capability
- Low Gate Charge

Product Summary

V_{DS}	$R_{DS(ON)}$ TYP	I_D
28V	4mΩ@10V	88A
	7.4mΩ@4.5V	

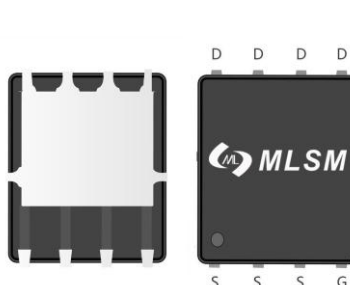
Application

- PWM applications
- Power management
- Load switch

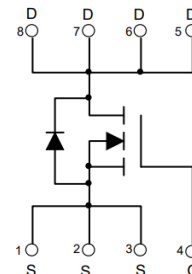


MC0D88A : Device code
XXXX : Code

Marking and pin assignment



PDFN5X6-8L 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	28	V
V_{GS}	Gate-Source Voltage	±20	V
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-55 to 150	°C
I_S	Diode Continuous Forward Current	$T_c=25^\circ\text{C}$ 88	A

Mounted on Large Heat Sink

I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$ 460	A
I_D	Continuous Drain Current	$T_c=25^\circ\text{C}$ 88	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$ 54	W
$R_{\theta JA}$	Thermal Resistance Junction-to-Ambient	89	°C/W

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MC0D88A	PDFN5X6-8L	MC0D88A	5,000	10,000	70,000	13"reel

Electrical Characteristics (T _J =25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T _J = 25℃ (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	28	30	—	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =25V, 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 =30A	—	4.0	4.8	mΩ
		V _{GS} =4.5V, I _D =10A	—	7.4	10	mΩ
Dynamic Electrical Characteristics @ T _J = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =12.5V, V _{GS} =0V, f=1MHz	—	1050	—	pF
C _{OSS}	Output Capacitance		—	220	—	pF
C _{RSS}	Reverse Transfer Capacitance		—	190	—	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =12.5V, I _D =30A, V _{GS} =10V	—	33	—	nC
Q _{gs}	Gate Source Charge		—	7	—	nC
Q _{gd}	Gate Drain Charge		—	11	—	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =12.5V, I _D =30A, V _{GS} =10V, R _G =2.5Ω	—	6	—	nS
t _r	Turn-on Rise Time		—	20.5	—	nS
t _{d(off)}	Turn-Off Delay Time		—	19	—	nS
t _f	Turn-Off Fall Time		—	9	—	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25℃, I _S =30A	—	—	1.2	V

Typical Operating Characteristics

