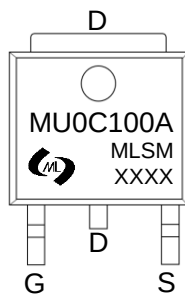


Features

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

Application

- PWM applications
- Power management
- Load switch



MU0C100A: Device code
XXXX: Code

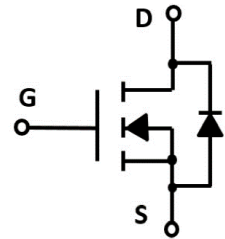
Marking and pin assignment

Product Summary

V_{DS}	$R_{DS(ON)}$ TYP	I_D
20V	3.3mΩ@4.5V	100A
	4.5mΩ@2.5V	



TO-252 top 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	20	V
V_{GS}	Gate-Source Voltage	±12	V
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-55 to 150	°C
I_S	Diode Continuous Forward Current	$T_C=25^\circ\text{C}$ 100	A

Mounted on Large Heat Sink

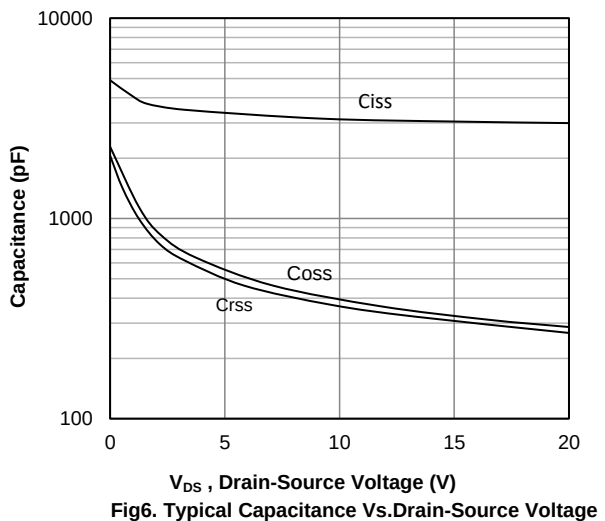
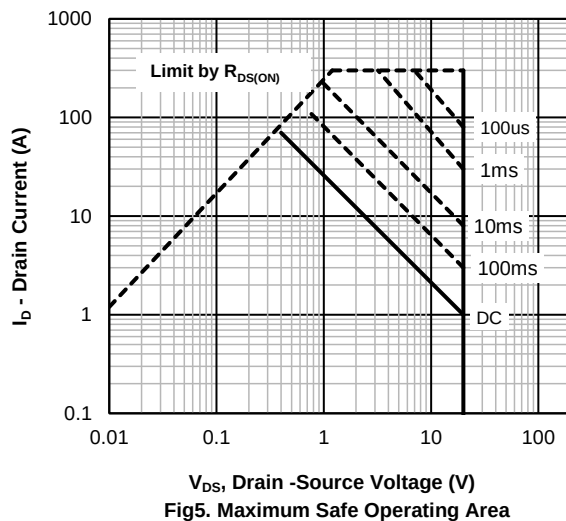
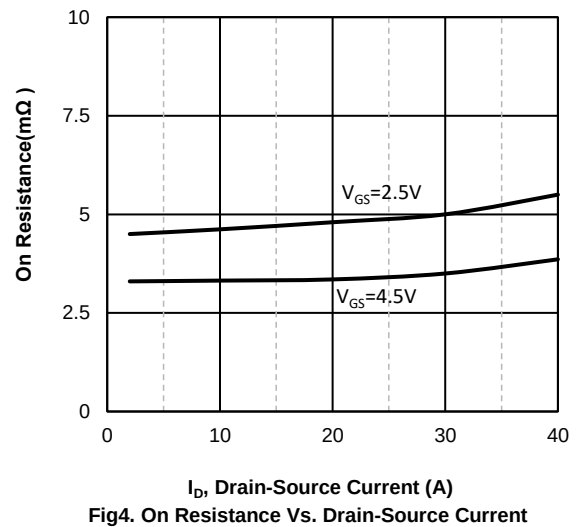
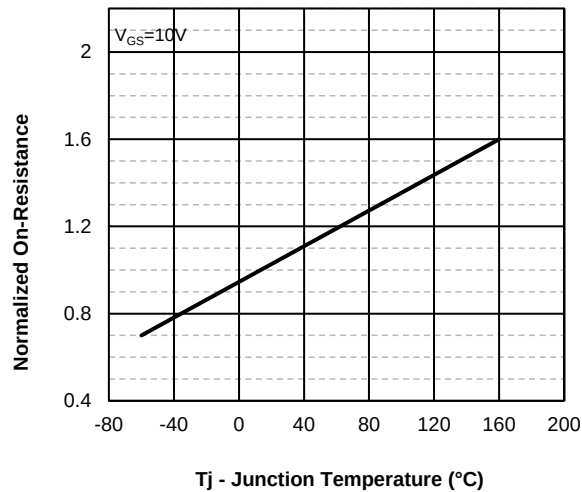
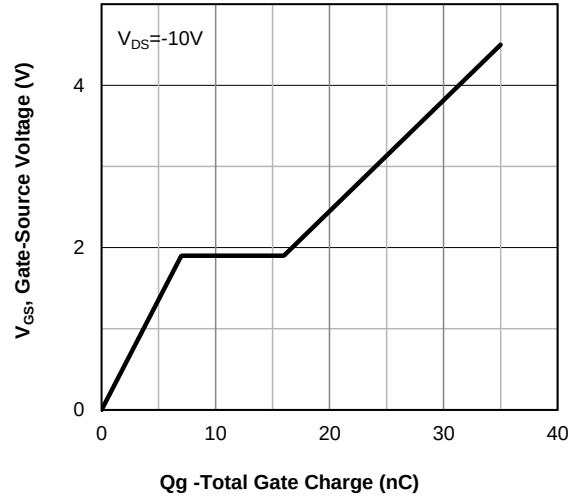
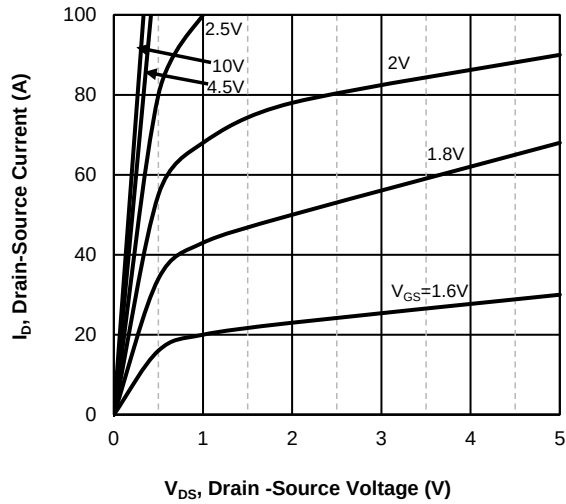
I_{DM}	Pulse Drain Current Tested	$T_C=25^\circ\text{C}$ 300	A
I_D	Continuous Drain Current	$T_C=25^\circ\text{C}$ 100	A
P_D	Maximum Power Dissipation	$T_C=25^\circ\text{C}$ 43	W
$R_{\theta JA}$	Thermal Resistance Junction-to-Ambient	75	°C/W

Ordering Information (Example)

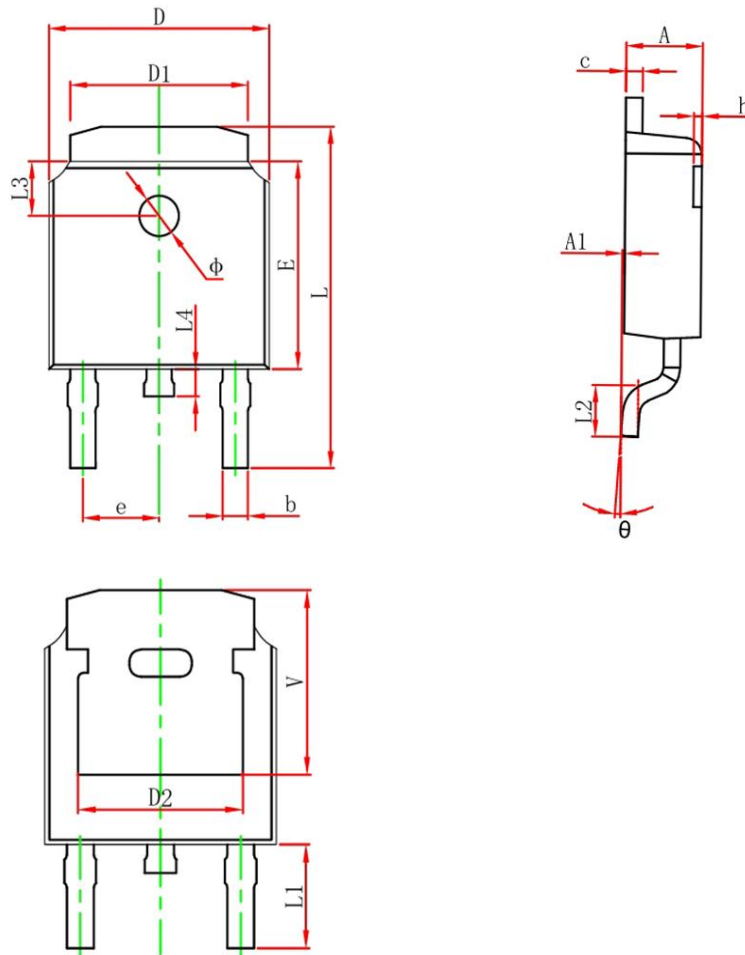
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MU0C100A	TO-252	MU0C100A	2,500	5,000	35,000	13"reel

Electrical Characteristics (T _J =25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T _J = 25℃ (unless otherwise stated)						
B _{V(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	20	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =20V, V _{GS} =0V	--	--	1	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±12V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250μA	0.4	0.8	1.2	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =4.5V, I _D =30A	--	3.3	4.2	mΩ
		V _{GS} =2.5V, I _D =10A	--	4.5	5.7	mΩ
Dynamic Electrical Characteristics @ T _J = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	--	3174	--	pF
C _{OSS}	Output Capacitance		--	396	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	365	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =10V, I _D =30A, V _{GS} =4.5V	--	36	--	nC
Q _{gs}	Gate Source Charge		--	6	--	nC
Q _{gd}	Gate Drain Charge		--	10	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =10V, I _D =30A, V _{GS} =4.5V, R _G =3Ω	--	13	--	nS
t _r	Turn-on Rise Time		--	31	--	nS
t _{d(off)}	Turn-Off Delay Time		--	73	--	nS
t _f	Turn-Off Fall Time		--	92	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25℃, I _S =30A	--	--	1.2	V

Typical Operating Characteristics



TO-252 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.450	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.386	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	