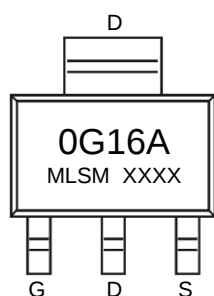


Features

- 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

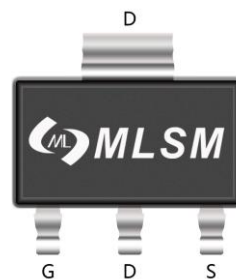


0G16A: Device code
XXXX: Code

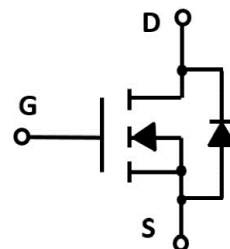
Marking and pin assignment

Product Summary

V_{DS}	$R_{DS(on)}$ TYP	I_D
60V	12mΩ@10V	16A
	16mΩ@4.5V	



SOT-23-3L top view



Schematic diagram



Pb-Free



Halogen-Free

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Rating	Unit
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Common Ratings ($T_C=25^\circ\text{C}$ 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	Tc=25°C	16	A

Mounted on Large Heat Sink

I_{DM}	Pulse Drain Current Tested	$T_C=25^\circ\text{C}$	80	A
I_D	Continuous Drain Current	$T_C=25^\circ\text{C}$	16	A
P_D	Maximum Power Dissipation	$T_C=25^\circ\text{C}$	1.5	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient		104	$^\circ\text{C/W}$

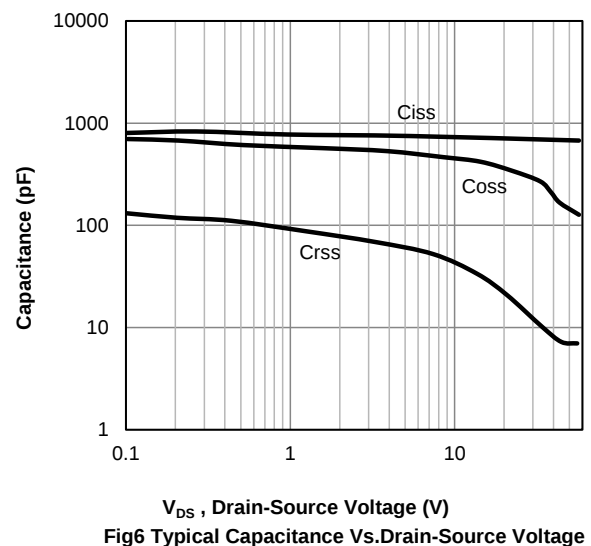
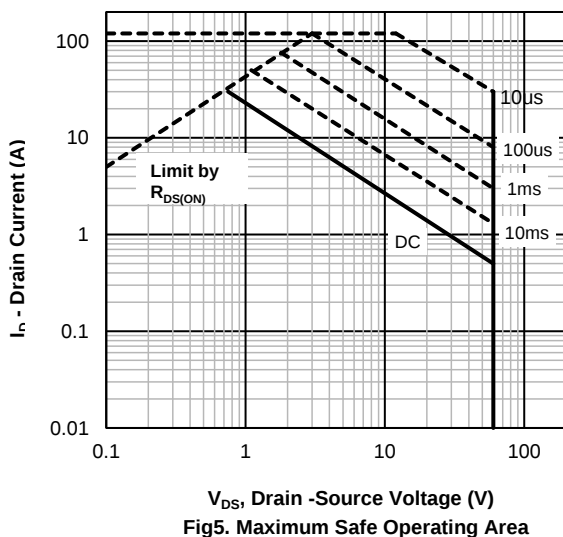
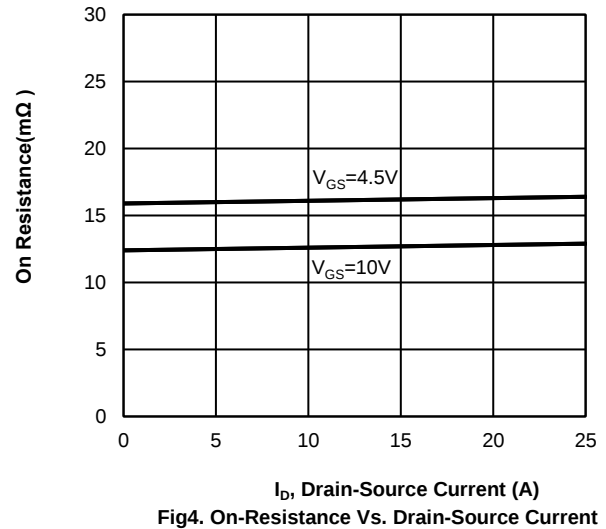
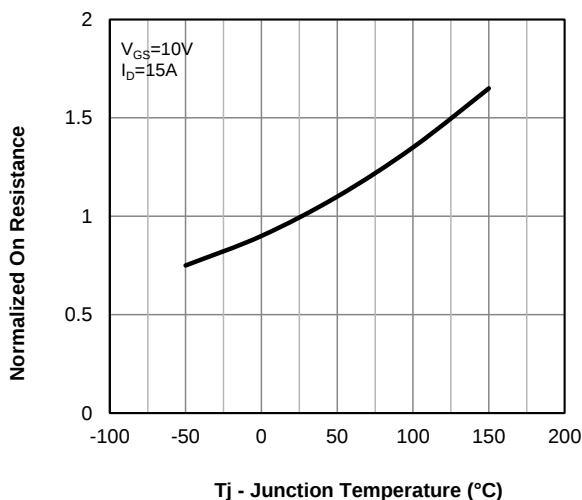
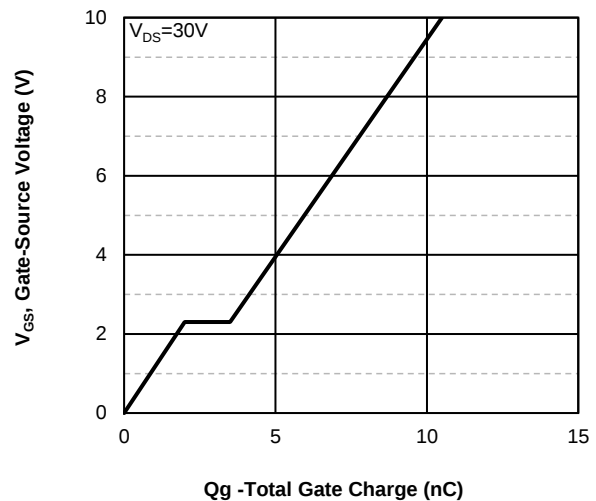
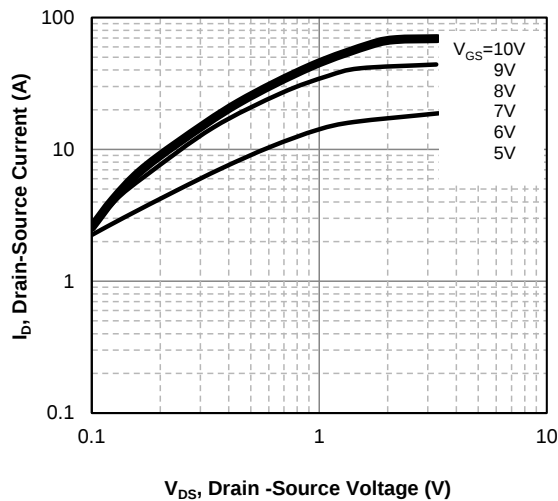
Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MT0G16A	SOT-223	0G16A	2,500	5,000	35,000	13"reel

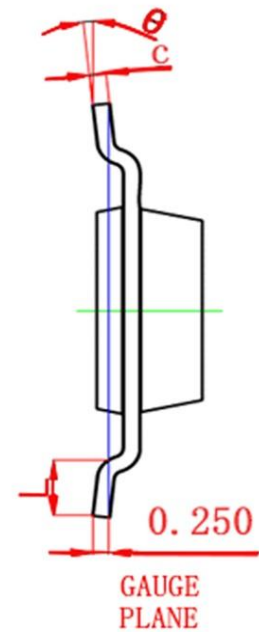
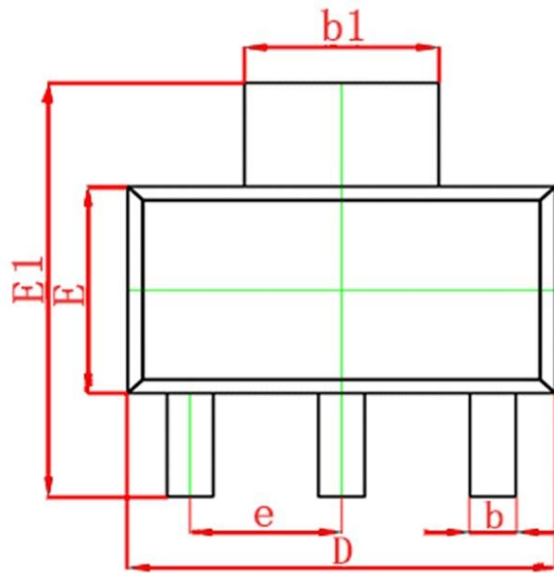
Electrical Characteristics (T_J=25 °C unless otherwise noted)

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	60	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=60V, VGS=0V	--	--	1.0	μA
IGSS	Gate-Body Leakage Current	VGS=±20V, VDS=0V	--	--	±100	nA
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	1.0	1.5	2.5	V
RDS(on)	Drain-Source On-State Resistance	VGS=10V, ID=15A	--	12	16	mΩ
		VGS=4.5V, ID=10A	--	16	25	mΩ
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
CISS	Input Capacitance	VDS=30V, VGS=0V, f=1MHz	--	610	--	pF
COSS	Output Capacitance		--	210	--	pF
CRSS	Reverse Transfer Capacitance		--	9	--	pF
Switching Characteristics						
QG	Total Gate Charge	VDS=30V, ID=10A, VGS=10V	--	9.5	--	nC
Qgs	Gate Source Charge		--	4.2	--	nC
Qgd	Gate Drain Charge		--	1.3	--	nC
tD(on)	Turn-on Delay Time	VDS=30V, ID=10A, VGS=10V, RG=3Ω	--	3.5	--	nS
tR	Turn-on Rise Time		--	10.8	--	nS
tD(off)	Turn-Off Delay Time		--	9.6	--	nS
tF	Turn-Off Fall Time		--	4.3	--	nS
Source- Drain Diode Characteristics						
VSD	Forward on voltage	TJ=25°C, IS=10A	--	--	1.2	V

Typical Operating Characteristics



SOT-223 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	--	1.800	--	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	3.300	3.700	0.130	0.146
E1	6.700	7.300	0.264	0.287
e	2.300(BSC)		0.091(BSC)	
L	0.750	--	0.030	--
θ	0°	10°	0°	10°