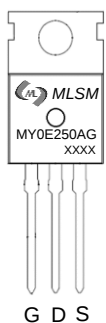


Features

- High Speed Power Switching, Logic level
- Enhanced Body diode DV/DT capability
- Enhanced Avalanche Ruggedness
- 100% UIS Tested, 100% Rg Tested
- Lead Free, Halogen Free

Application

- DC/DC Converter
- Motor Drivers
- Ideal for high-frequency switching and synchronous rectification



MY0E250AG : Device code
 XXXX : Code

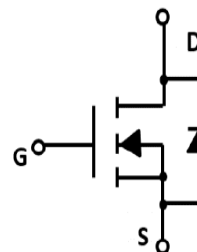
Marking and pin assignment

Product Summary

V_{DS}	$R_{DS(ON)}$ TYP	I_D
40V	1.4mΩ@10V	250A
	1.9mΩ@4.5V	



TO-220 top view



Schematic diagram



Pb-Free



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	40	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	$T_c=25^\circ\text{C}$ 250	A

Mounted on Large Heat Sink

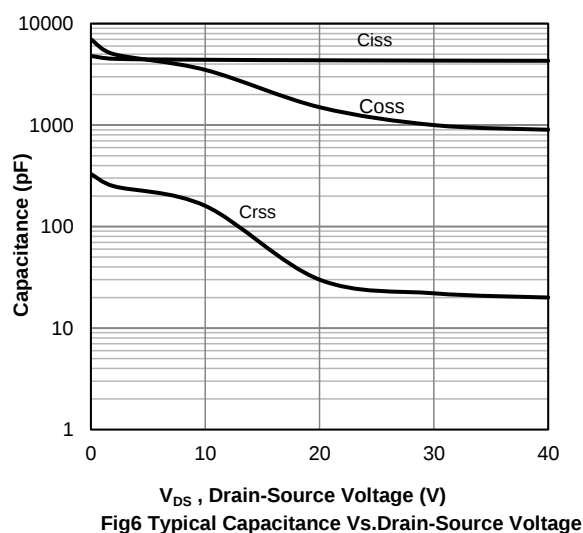
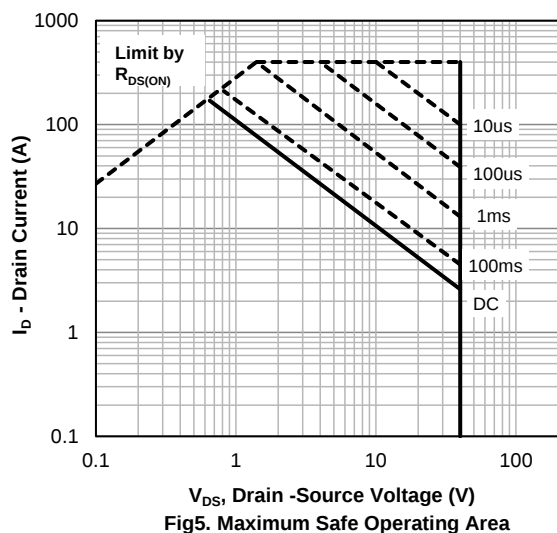
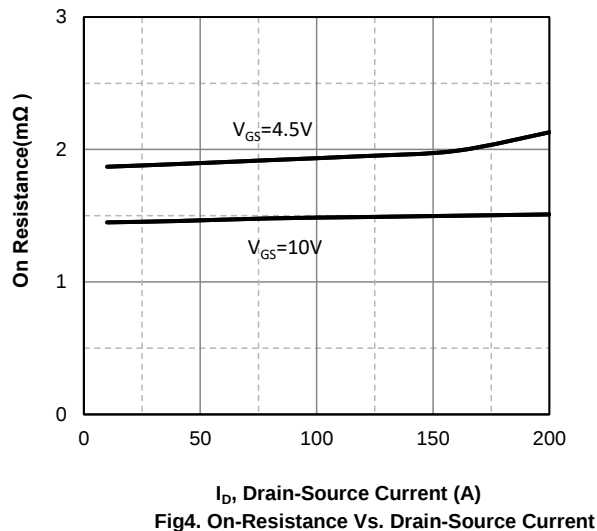
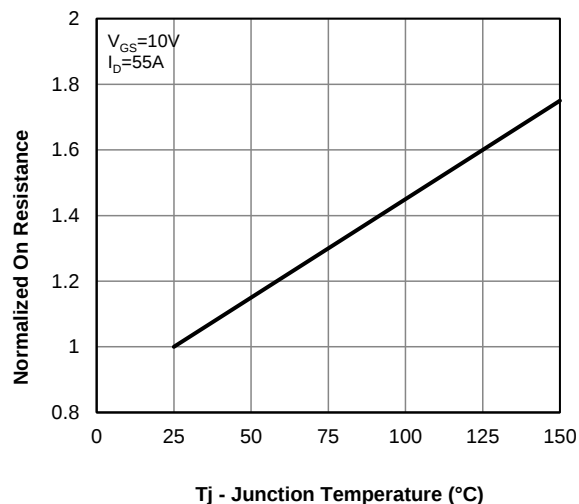
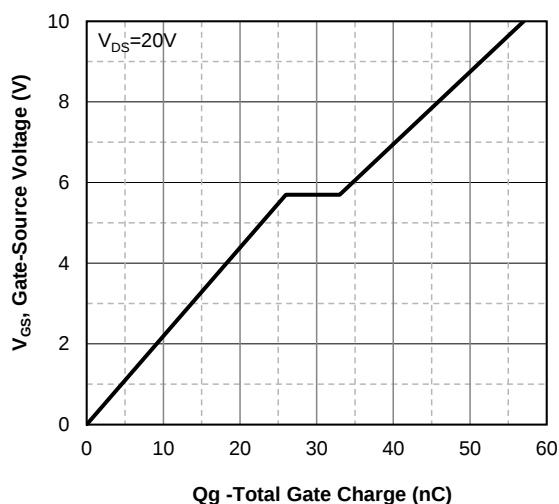
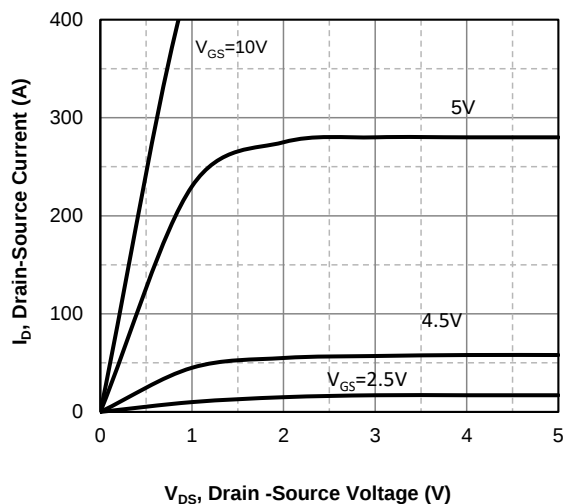
I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$ 750	A
I_D	Continuous Drain Current	$T_c=25^\circ\text{C}$ 250	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$ 171	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient	62.5	°C/W

Ordering Information (Example)

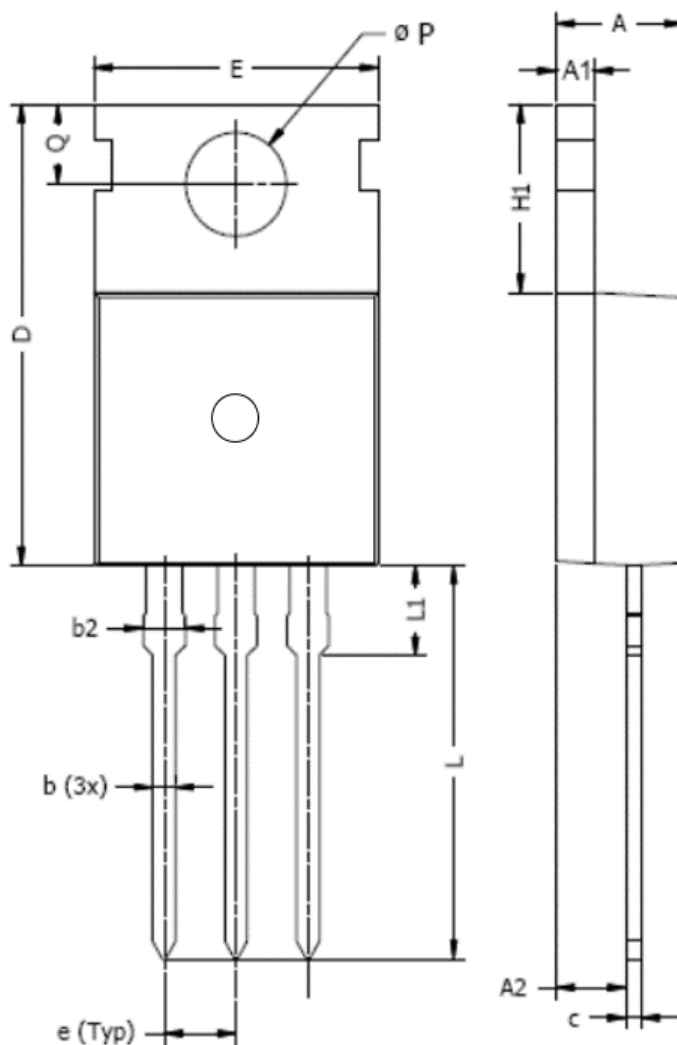
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)
MY0E250AG	TO-220	MY0E250AG	50	1,000	5,000

Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	40	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =40V, 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	1.8	2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =30A	--	1.4	1.9	mΩ
		V _{GS} =4.5V, I _D =20A	--	1.9	2.5	mΩ
Dynamic Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =20V, V _{GS} =0V, f=500KHz	--	4380	--	pF
C _{OSS}	Output Capacitance		--	1490	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	30	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =20V, I _D =55A, V _{GS} =10V	--	56	--	nC
Q _{gs}	Gate Source Charge		--	27	--	nC
Q _{gd}	Gate Drain Charge		--	5.6	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =20V, I _D =55A, V _{GS} =10V, R _G =3Ω	--	22	--	nS
t _r	Turn-on Rise Time		--	8.5	--	nS
t _{d(off)}	Turn-Off Delay Time		--	44	--	nS
t _f	Turn-Off Fall Time		--	51.8	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	TJ=25℃, Is=30A,	--	0.8	1.2	V

Typical Operating Characteristics



TO-220 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	3.600	4.800	0.142	0.189
A1	1.200	1.400	0.047	0.055
A2	2.030	2.900	0.080	0.114
b	0.400	1.000	0.016	0.039
b2	1.200	1.780	0.047	0.070
c	0.360	0.600	0.014	0.024
D	14.220	16.500	0.561	0.651
e	2.340	2.740	0.092	0.108
E	9.700	10.600	0.383	0.418
H1	5.840	6.850	0.230	0.270
L	12.700	14.700	0.501	0.580
L1	2.700	3.300	0.106	0.130
$\varnothing P$	3.500	4.000	0.138	0.158
Q	2.540	3.400	0.100	0.134