

● General Description

The AGM01P15E combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$

This device is ideal for load switch and battery protection applications.

● Features

- Advance high cell density Trench technology
- Low $R_{DS(ON)}$ to minimize conductive loss
- Low Gate Charge for fast switching
- Low Thermal resistance
- 100% DVDS tested

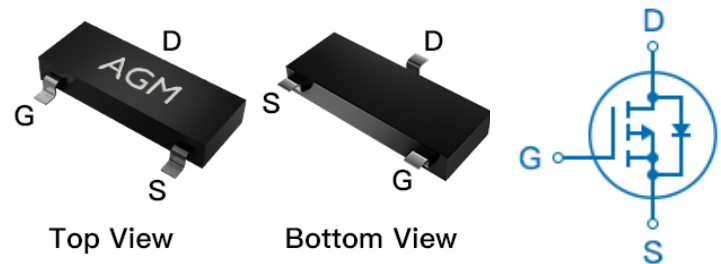
● Application

- MB/VGA Vcore
- SMPS 2nd Synchronous Rectifier
- POL application
- BLDC Motor driver

Product Summary

BVDSS	RDS(ON)	ID
-100V	270mΩ	-4.3A

SOT23-3 Pin Configuration



Package Marking and Ordering Information

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
01P15E	AGM01P15E	SOT23-3	178mm	8mm	3000

Table 1. Absolute Maximum Ratings (TA=25°C)

Symbol	Parameter	Value	Unit
VDS	Drain-Source Voltage (VGS=0V)	-100	V
VGS	Gate-Source Voltage (VDS=0V)	±20	V
ID	Drain Current-Continuous(Tc=25°C) (Note 1)	-4.3	A
	Drain Current-Continuous(Tc=100°C)	-2.9	A
IDM (pluse)	Drain Current-Pulsed (Note 2)	-17.2	A
PD	Maximum Power Dissipation(Tc=25°C)	1.25	w
	Maximum Power Dissipation(Tc=100°C)	1.0	w
EAS	Avalanche energy (Note 3)	30	mJ
TJ,TSTG	Operating Junction and Storage Temperature Range	-55 To 150	°C

Table 2. Thermal Characteristic

Symbol	Parameter	Typ	Max	Unit
RθJA	Thermal Resistance Junction-ambient (Steady State) ¹	---	100	°C/W

Table 3. Electrical Characteristics (T_J=25°C unless otherwise noted)

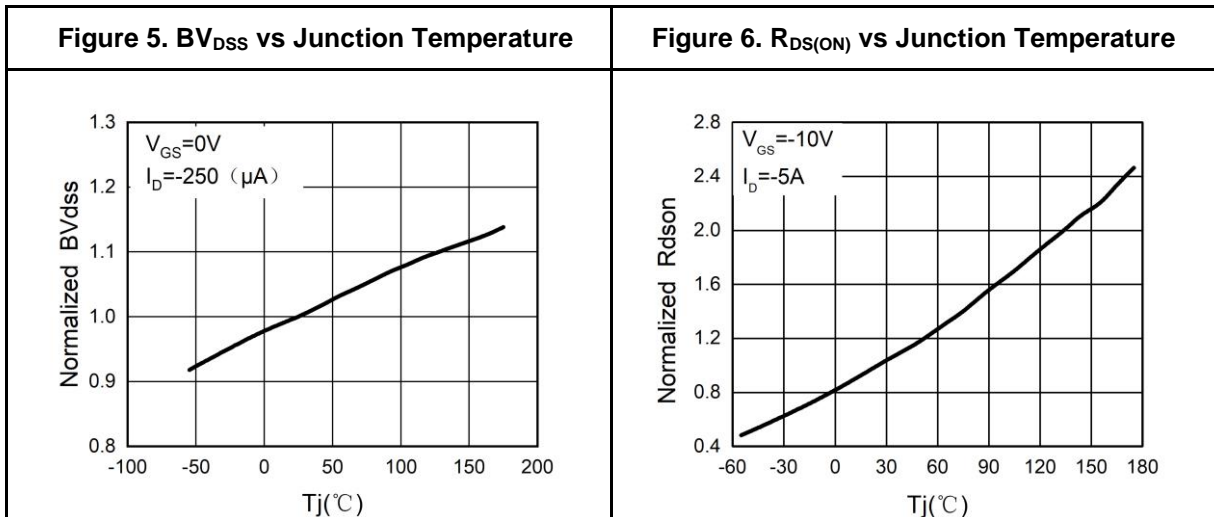
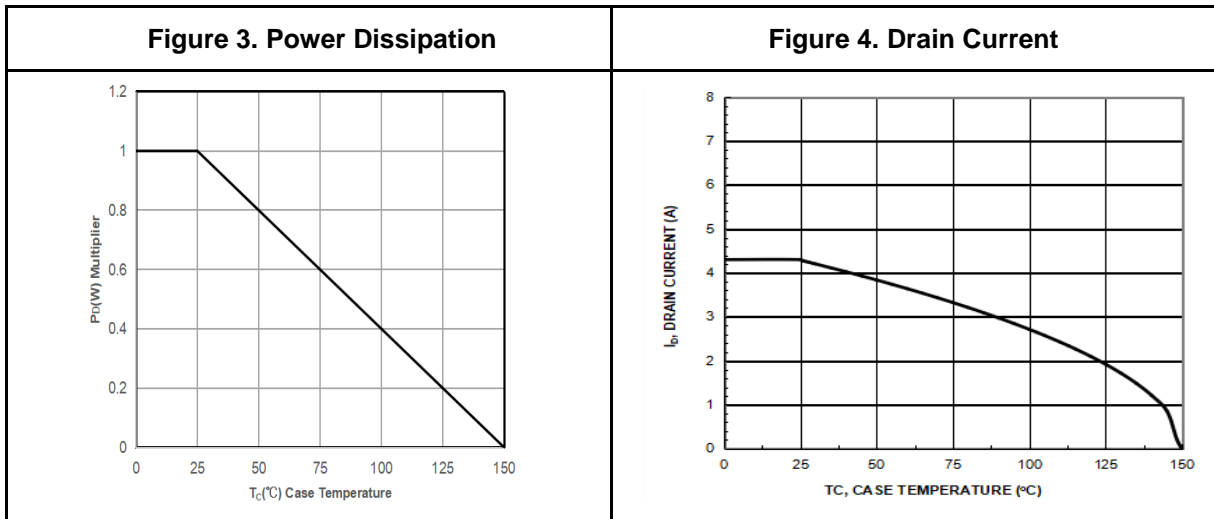
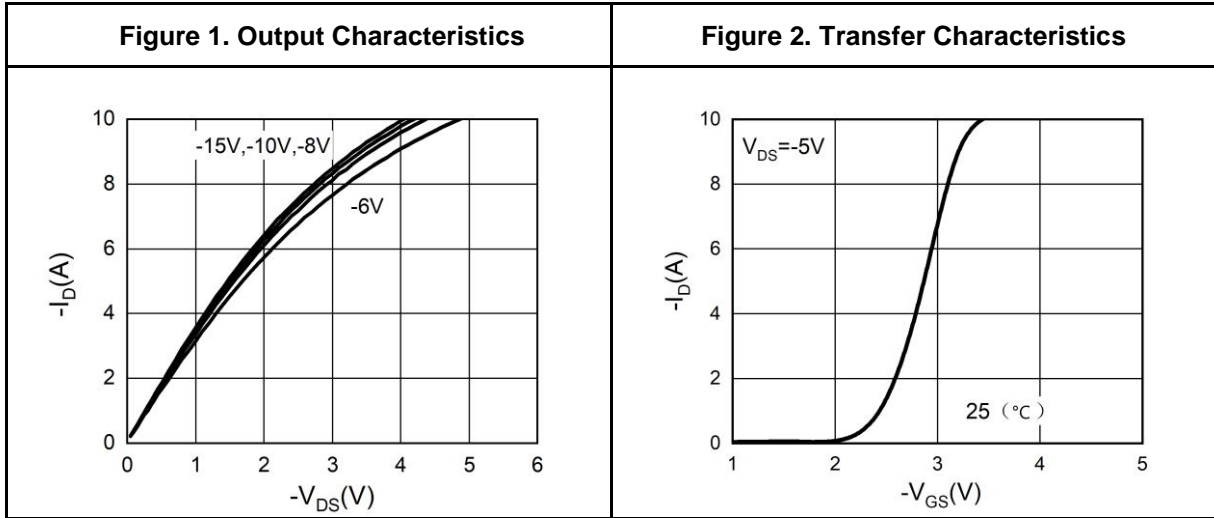
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
On/Off States						
BVDSS	Drain-Source Breakdown Voltage	V _{GS} =0V ID=-250μA	-100	--	--	V
IDSS	Zero Gate Voltage Drain Current	V _{DS} =-100V, V _{GS} =0V	--	--	-1	μA
IGSS	Gate-Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , ID=-250μA	-1.2	-1.6	-2.2	V
g _{FS}	Forward Transconductance	V _{DS} =-5V, ID=-2A	--	7.0	--	S
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =-10V, ID=-4A	--	270	340	mΩ
		V _{GS} =-4.5V, ID=-2A	--	280	345	mΩ
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} =-50V, V _{GS} =0V, F=1MHZ	--	1199	--	pF
C _{oss}	Output Capacitance		--	34	--	pF
C _{rss}	Reverse Transfer Capacitance		--	28	--	pF
R _g	Gate resistance	V _{GS} =0V, V _{DS} =0V, f=1.0MHz	--	5.2	--	Ω
Switching Times						
t _{d(on)}	Turn-on Delay Time	V _{GS} =-10V, V _{DS} =-50V, R _L =3Ω, R _{GEN} =3Ω	--	13.5	--	nS
t _r	Turn-on Rise Time		--	4.0	--	nS
t _{d(off)}	Turn-Off Delay Time		--	42	--	nS
t _f	Turn-Off Fall Time		--	6.5	--	nS
Q _g	Total Gate Charge	V _{GS} =-10V, V _{DS} =-50V, ID=-3A	--	19.5	--	nC
Q _{gs}	Gate-Source Charge		--	6.0	--	nC
Q _{gd}	Gate-Drain Charge		--	4.1	--	nC
Source-Drain Diode Characteristics						
I _{SD}	Source-Drain Current(Body Diode)		--	--	-4.3	A
V _{SD}	Forward on Voltage	V _{GS} =0V, I _S =-3A	--	--	-1.2	V
t _{rr}	Reverse Recovery Time	I _{sd} =-3A , di/dt=100A/μs , T _J =25°C	--	43	--	ns
Q _{rr}	Reverse Recovery Charge		--	84	--	nc

Notes 1.The maximum current rating is package limited.

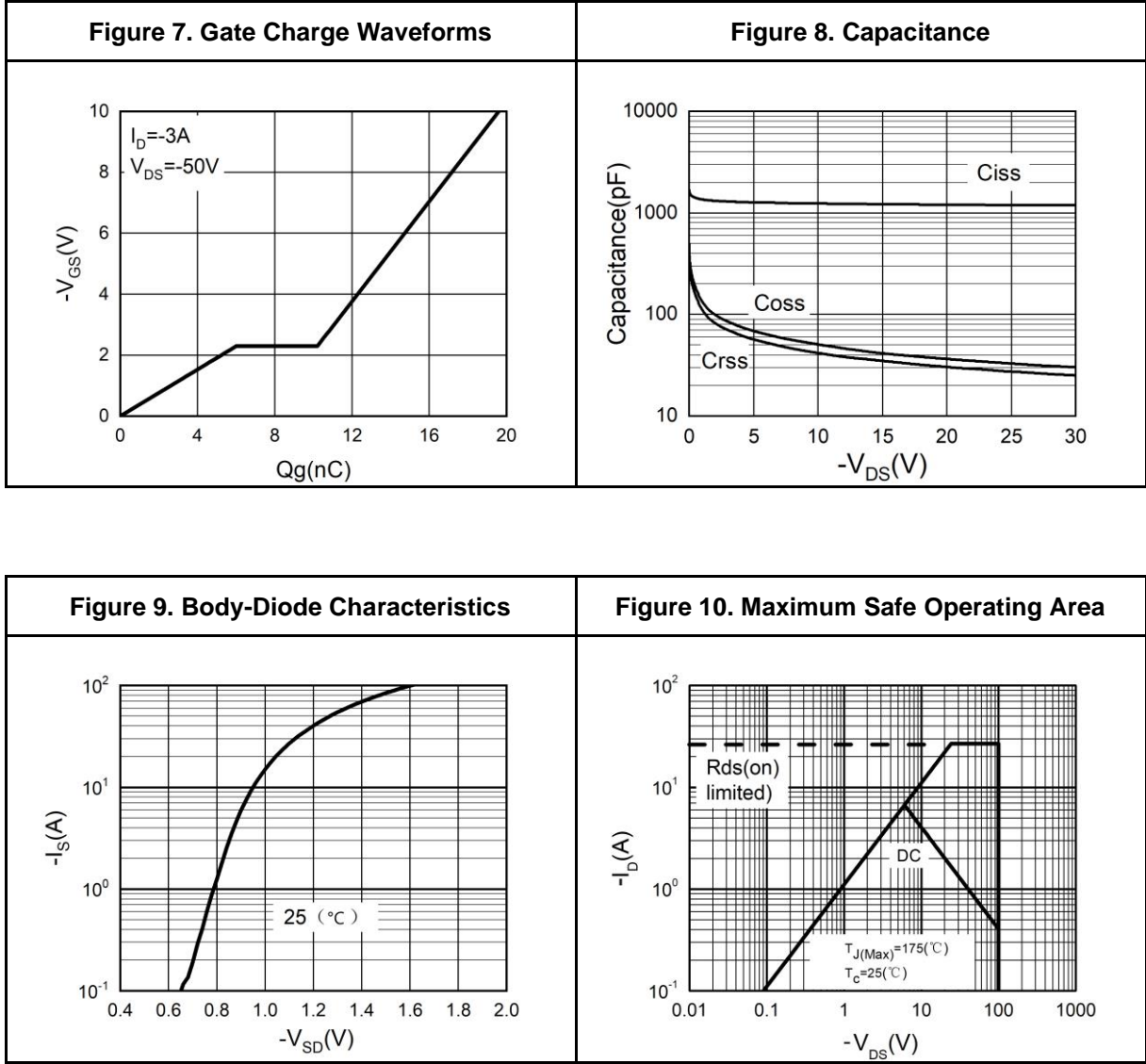
Notes 2.Repetitive Rating: Pulse width limited by maximum junction temperature

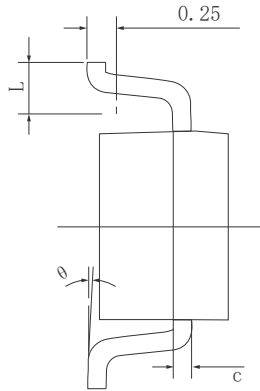
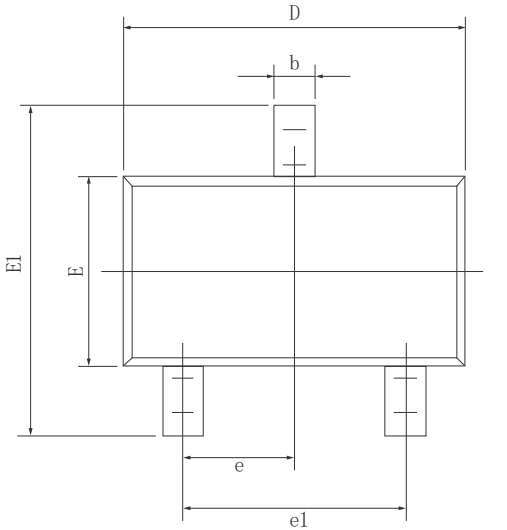
Notes 3.EAS condition: T_J=25°C

Typical Electrical And Thermal Characteristics (Curves)

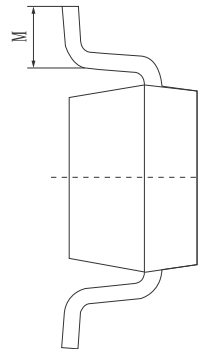
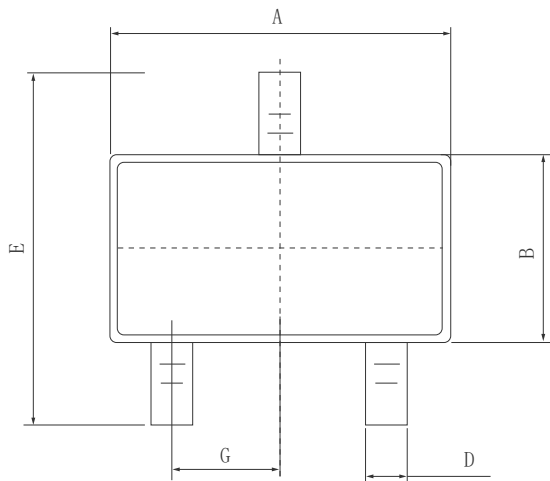
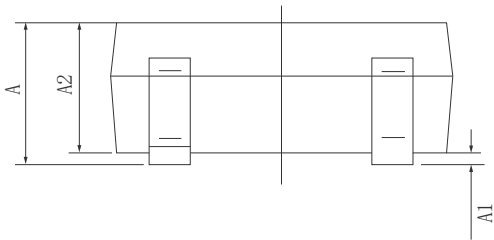


Typical Electrical And Thermal Characteristics (Curves)

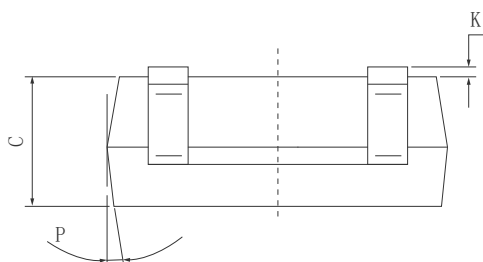


●Dimensions (SOT23-3)


SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	—	—	1.25
A1	0.03	—	0.10
A2	1.05	1.10	1.15
b	0.30	0.35	0.40
c	0.13	—	0.17
D	2.87	2.92	2.97
E	1.55	1.60	1.65
E1	2.70	2.85	3.00
e	0.95 BSC.		
e1	1.80	—	2.00
L	0.35	0.45	0.55
θ	0°	—	8°

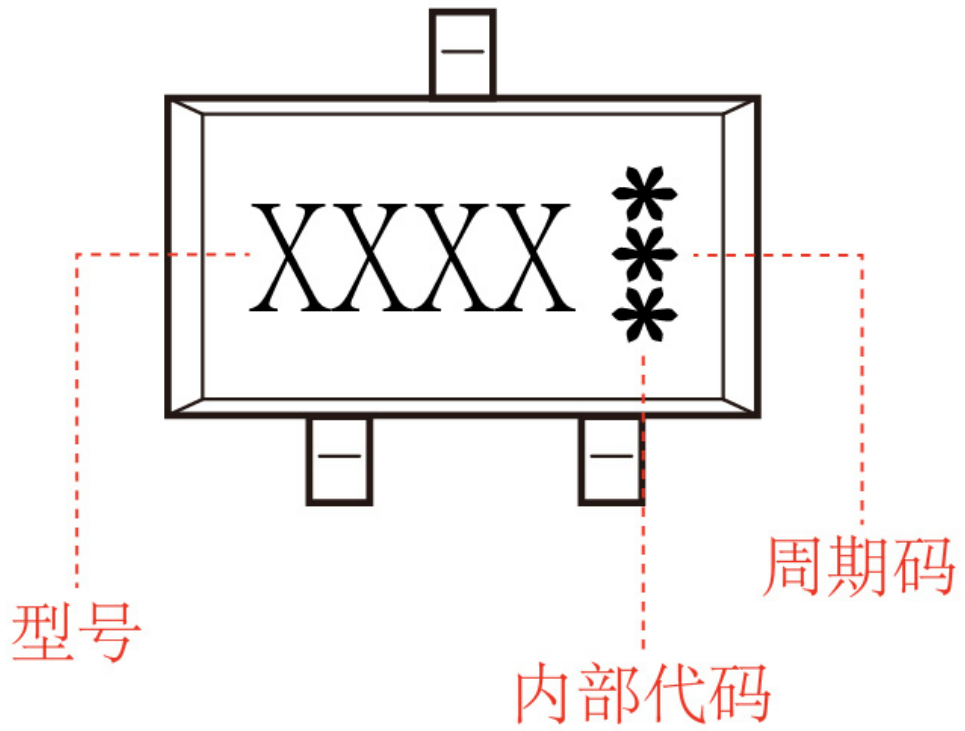


DIM	MILLIMETERS
A	2.82~3.02
B	1.60±0.10
C	1.10±0.05
D	0.40±0.10
E	2.65~2.95
G	0.95typ
K	0.00~0.10
M	0.20MIN
P	9±2°



SOT23-3

Marking Instructions:




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