

General Description

The AGM215TS 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% Avalanche tested
- 100% DVDS tested
- ESD

Application

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

Product Summary

BVDSS	RDSON	ID
19.5V	11mΩ	7.0A

TSSOP8 Pin Configuration

Package Marking and Ordering Information

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
AGM215TS	AGM215TS	TSSOP8	330mm	12mm	3000

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage ($V_{GS}=0V$)	19.5	V
V_{GS}	Gate-Source Voltage ($V_{DS}=0V$)	±10	V
I_D	Drain Current-Continuous(TA=25°C) (Note 1)	7	A
	Drain Current-Continuous(TA=100°C)	4.3	A
IDM (pulse)	Drain Current-Pulsed (Note 2)	28	A
P_D	Total Power Dissipation(TA=25°C)	1.2	W
	Total Power Dissipation(TA=100°C)	0.48	W
EAS	Avalanche energy (Note 3)	25	mJ
TJ,TSTG	Operating Junction and Storage Temperature Range	-55 To 150	°C

Table 2. Thermal Characteristic

Symbol	Parameter	Typ	Max	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient (Steady State) ¹	---	105	°C/W

Table 3. N- Channel Electrical Characteristics (TJ=25°C unless otherwise noted)

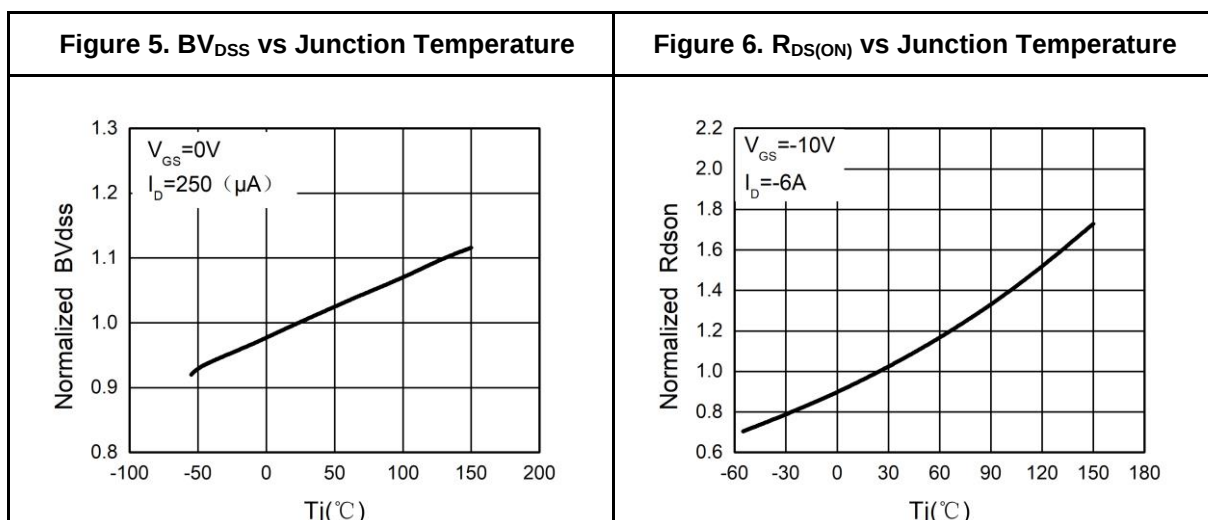
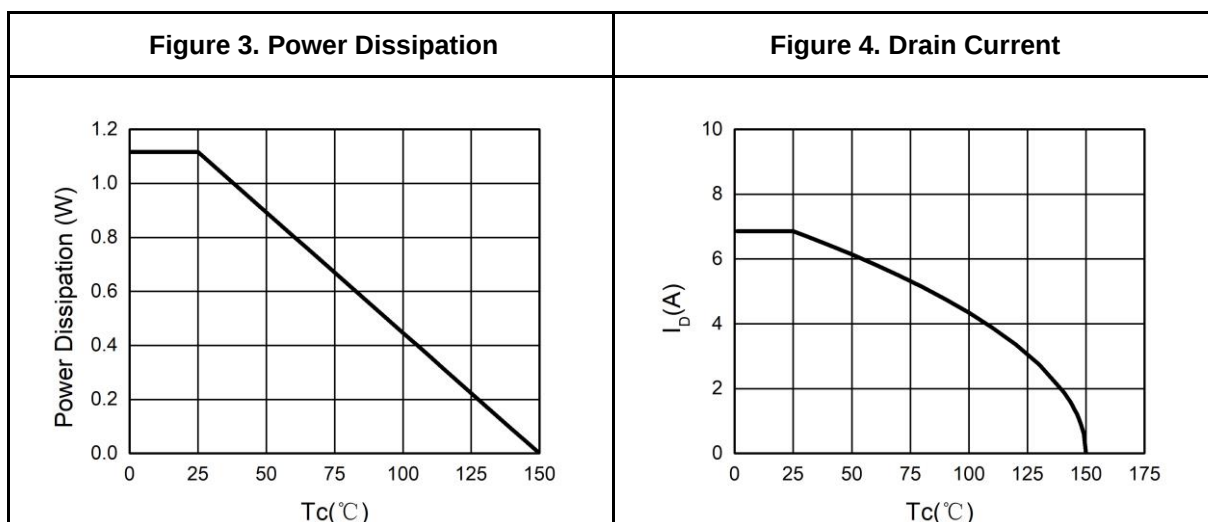
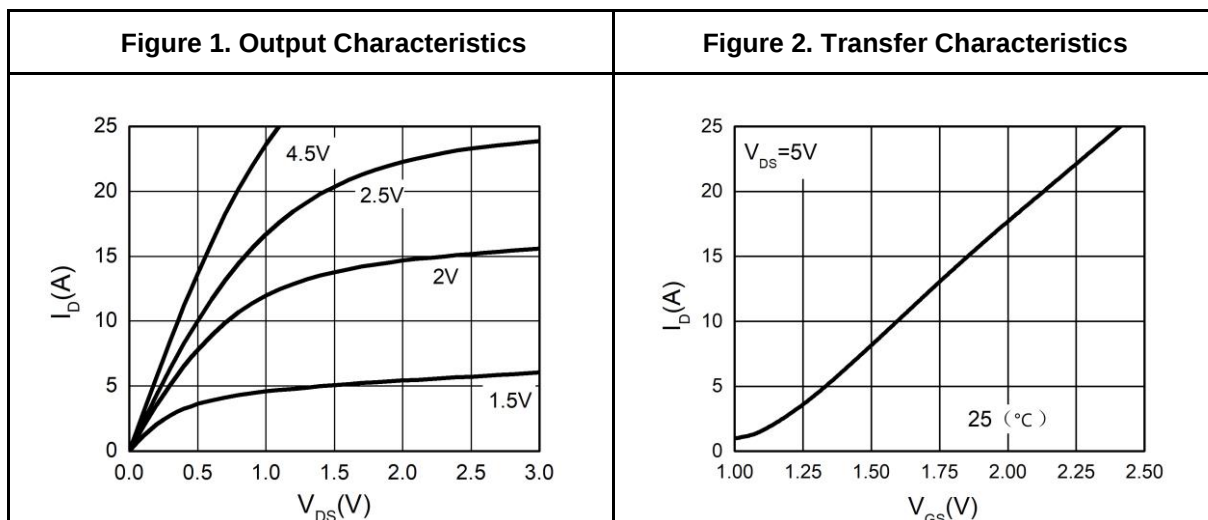
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
On/Off States						
BVDSS	Drain-Source Breakdown Voltage	VGS=0V ID=250μA	19.5	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=18V,VGS=0V	--	--	1	μA
IGSS	Gate-Body Leakage Current	VGS=±10V,VDS=0V	--	--	±100	nA
VGS(th)	Gate Threshold Voltage	VDS=VGS,ID=250μA	0.5	0.7	1.0	V
gFS	Forward Transconductance	VDS=5V,ID=4A	--	13.6	--	S
RDS(on)	Drain-Source On-State Resistance	VGS=4.5V, ID=5A	--	11	15	mΩ
		VGS=2.5V, ID=4A	--	14	19	mΩ
Dynamic Characteristics						
Ciss	Input Capacitance	VDS=10V,VGS=0V, F=1MHZ	--	854	--	pF
Coss	Output Capacitance		--	150	--	pF
Crss	Reverse Transfer Capacitance		--	90	--	pF
Rg	Gate resistance	VGS=0V, VDS=0V,f=1.0MHz	--	--	--	Ω
Switching Times						
td(on)	Turn-on Delay Time	VGS=4.5V,VDS=10V RL=2Ω,RGEN=6Ω	--	11	--	nS
tr	Turn-on Rise Time		--	34	--	nS
td(off)	Turn-Off Delay Time		--	55	--	nS
tf	Turn-Off Fall Time		--	51	--	nS
Qg	Total Gate Charge	VGS=4.5V, VDS=10V, ID=5A	--	9.1	--	nC
Qgs	Gate-Source Charge		--	1.6	--	nC
Qgd	Gate-Drain Charge		--	2.0	--	nC
Source-Drain Diode Characteristics						
ISD	Source-Drain Current(Body Diode)		--	--	7.0	A
VSD	Forward on Voltage	VGS=0V,IS=5A	--	--	1.2	V
trr	Reverse Recovery Time	IF=5A , dI/dt=100A/μs , TJ=25℃	--	--	--	ns
Qrr	Reverse Recovery Charge		--	--	--	nc

Notes 1.The maximum current rating is package limited.

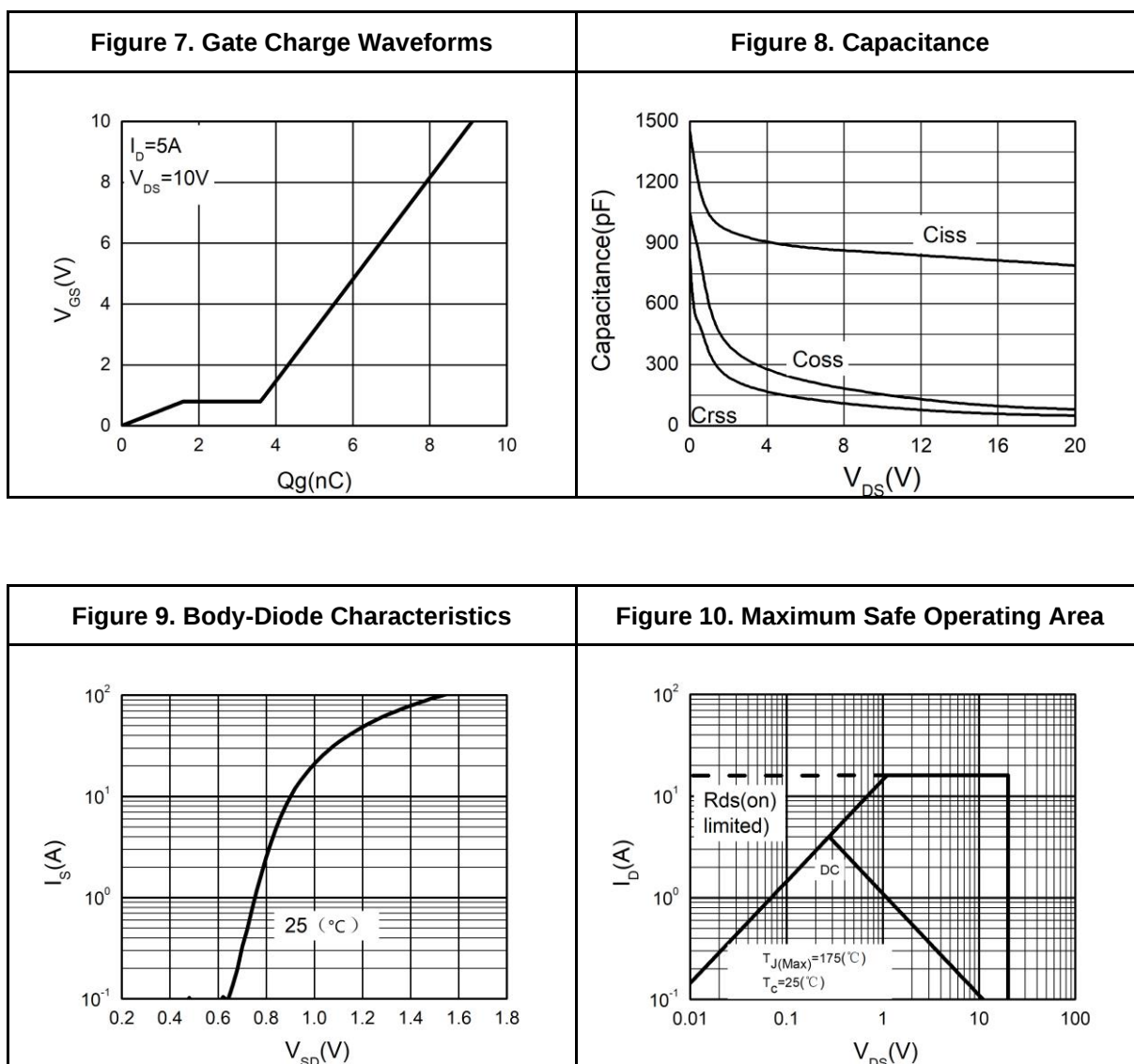
Notes 2.Repetitive Rating: Pulse width limited by maximum junction temperature

Notes 3.EAS condition: TJ=25°C

Typical Electrical And Thermal Characteristics (Curves)

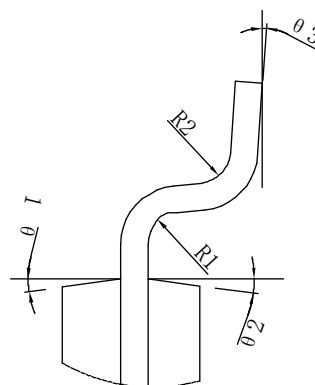
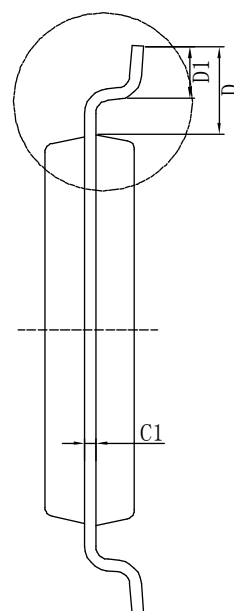
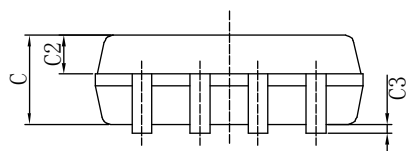
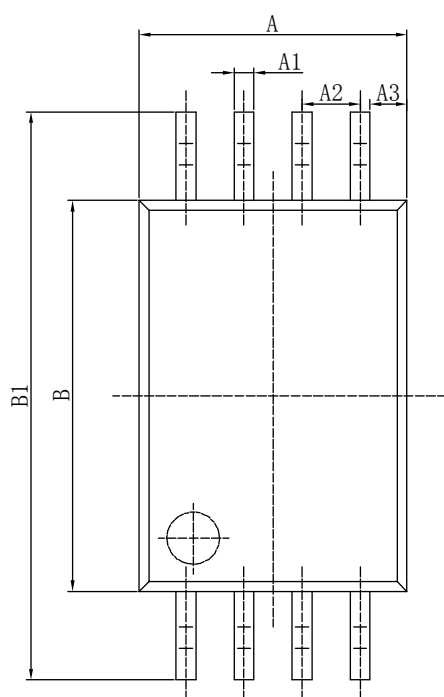


Typical Electrical And Thermal Characteristics (Curves)



Package Mechanical Data TSSOP8

标注	尺寸	最小 (mm)	最大 (mm)	标注	尺寸	最小 (mm)	最大 (mm)
A		2.90	3.10	C3		0.05	0.15
A1		0.20	0.30	D		1.00REF	
A2		0.65 TYP		D1		0.50	0.70
A3		0.36	0.46	R1		0.15TYP	
B		4.30	4.50	R2		0.15TYP	
B1		6.30	6.50	$\theta 1$		12° TYP4	
C		0.95	1.05	$\theta 2$		12° TYP4	
C1		0.127 TYP		$\theta 3$		0° ~ 7°	
C2		0.39	0.49				



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