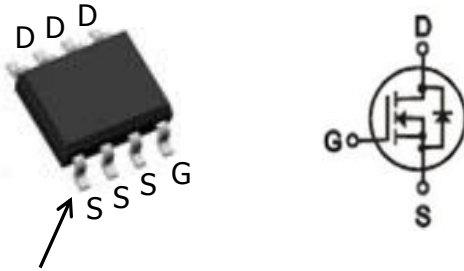


- ★ 100% EAS Guaranteed
- ★ Green Device Available
- ★ Super Low Gate Charge
- ★ Excellent CdV/dt effect decline
- ★ Advanced high cell density Trench technology

**Product Summary**

BVDSS	RDSON	ID
30V	6.5mΩ	13A

**SOP-8 Pin Configuration**

**Description**

AGM308S is the high cell density trenched N-ch MOSFETs, which provide excellent RDSON and gate charge for most of the synchronous buck converter applications.

**Package Marking and Ordering Information**

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
AGM308S	AGM308S	SOP-8	---mm	---mm	3000

**•Absolute Maximum Ratings (T<sub>C</sub> =25°C)**

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V <sub>DS</sub>	30	V
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Continuous Drain Current <sup>②</sup>	I <sub>D</sub>	13	A
Pulsed Drain Current <sup>①</sup>	I <sub>DM</sub>	32	A
Total Power Dissipation <sup>②</sup>	P <sub>D@TC=25°C</sub>	3.1	W
Total Power Dissipation	P <sub>D@TA=25°C</sub>	0.69	W
Operating Junction Temperature	T <sub>J</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C
Single Pulse Avalanche Energy@L=0.1mH	E <sub>AS</sub>	43	mJ
Avalanche Current@L=0.1mH	I <sub>AS</sub>	28	A

**•Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case <sup>②</sup>	R <sub>thJC</sub>	-	-	40	°C/W
Thermal resistance, junction - ambient	R <sub>thJA</sub>	-	-	180	°C/W
Soldering temperature, wavesoldering for 10s	T <sub>sold</sub>	-	-	265	°C

**●Electronic Characteristics**

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	1.2		2.5	V
Drain-Source Leakage Current	$I_{DSS}$	$V_{DS} = 30V, V_{GS} = 0V$			1.0	$\mu A$
Gate- Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 100$	nA
Static Drain-source On Resistance	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 12A$		6.5	9.5	m $\Omega$
		$V_{GS} = 4.5V, I_D = 6A$		10	14	m $\Omega$
Forward Transconductance	$g_{FS}$	$V_{DS} = 25V, I_D = 10A$		9		s

**●Electronic Characteristics**

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	$C_{iss}$	f = 1MHz	-	980	-	pF
Output capacitance	$C_{oss}$		-	205	-	
Reverse transfer capacitance	$C_{rss}$		-	120	-	

**Gate Charge characteristics(Ta= 25°C)**

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	$Q_g$	$V_{DD} = 25V$ $I_D = 8A$ $V_{GS} = 10V$	-	12	-	nC
Gate - Source charge	$Q_{gs}$		-	4	-	
Gate - Drain charge	$Q_{gd}$		-	6	-	

Note: ① Pulse Test : Pulse width  $\leq 300\mu s$ , Duty cycle  $\leq 2\%$  ;

② Device mounted on FR-4 substrate PC board, 2oz copper, with thermal bias to bottom layer 1inch square copper plate;

Fig.1 Power Dissipation

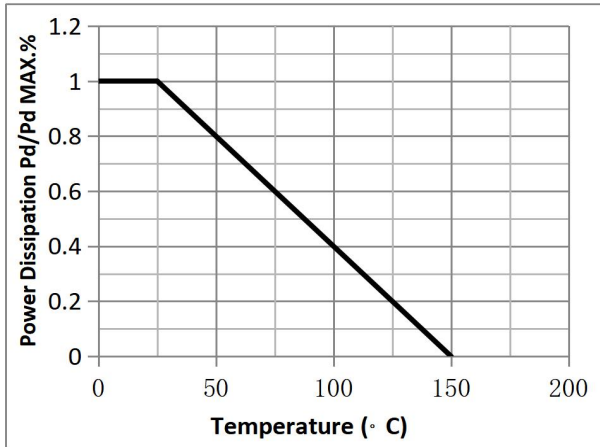


Fig.2 Typical output Characteristics

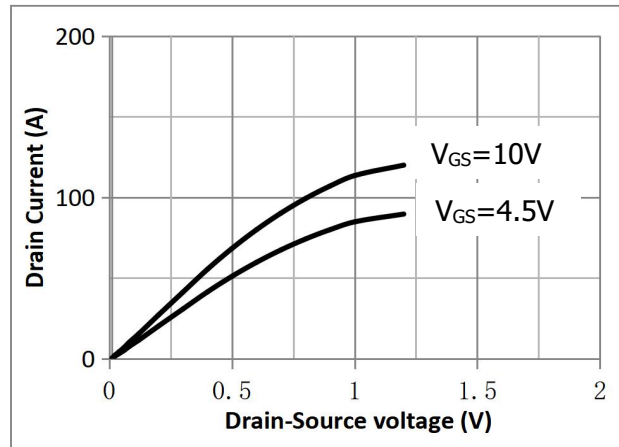


Fig.3 Threshold Voltage V.S Junction Temperature

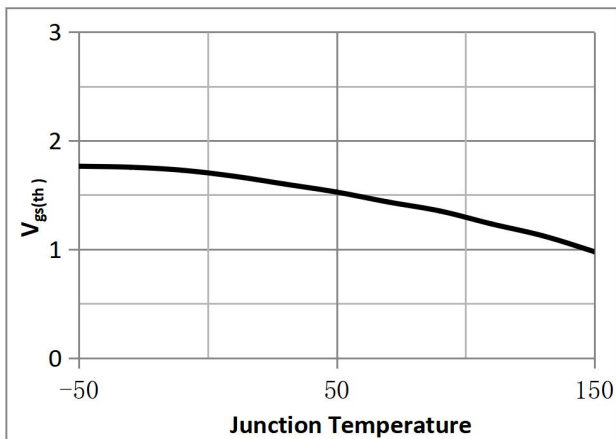


Fig.4 Resistance V.S Drain Current

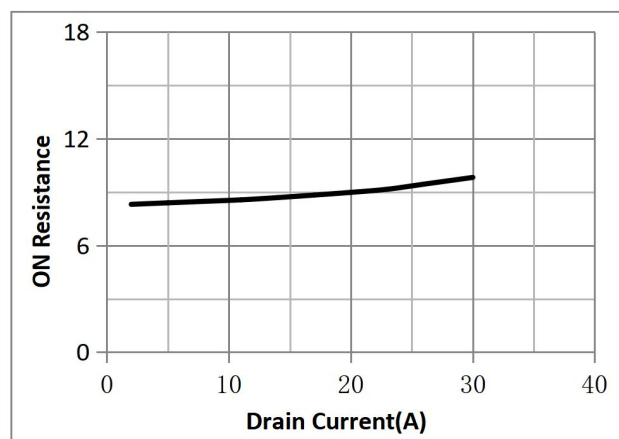


Fig.5 On-Resistance VS Gate Source Voltage

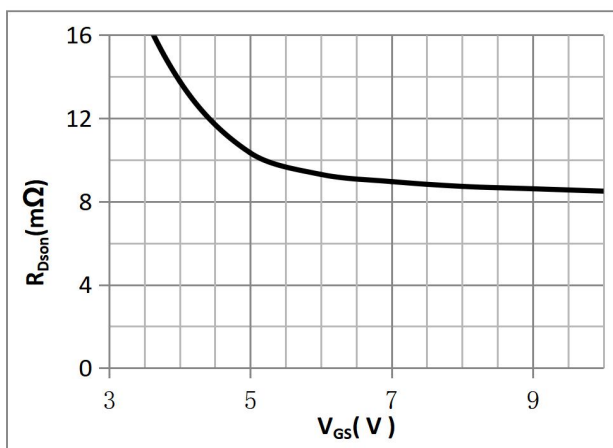


Fig.6 On-Resistance V.S Junction Temperature

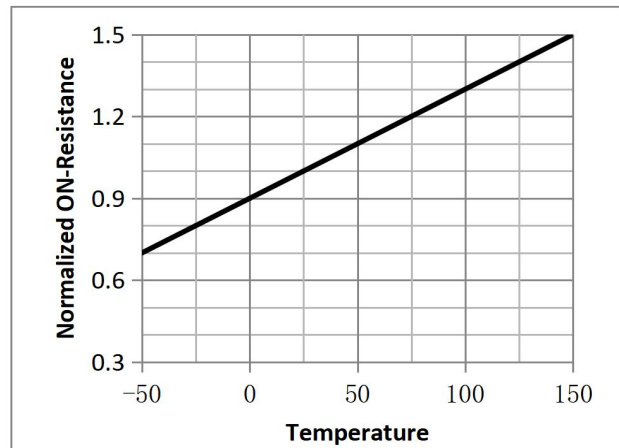


Fig.7 Switching Time Measurement Circuit

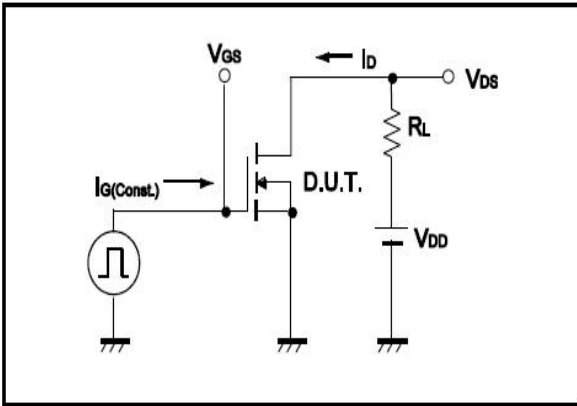


Fig.8 Gate Charge Waveform

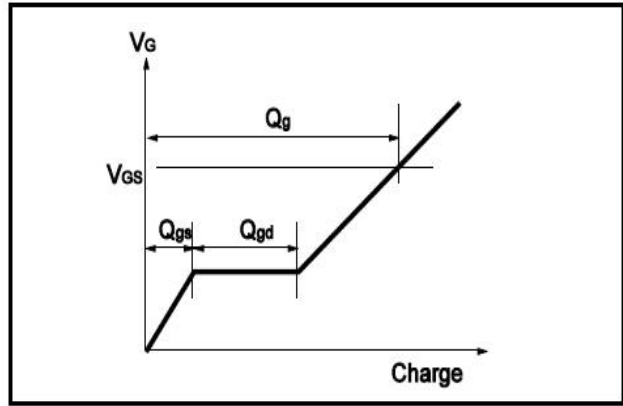


Fig.9 Switching Time Measurement Circuit

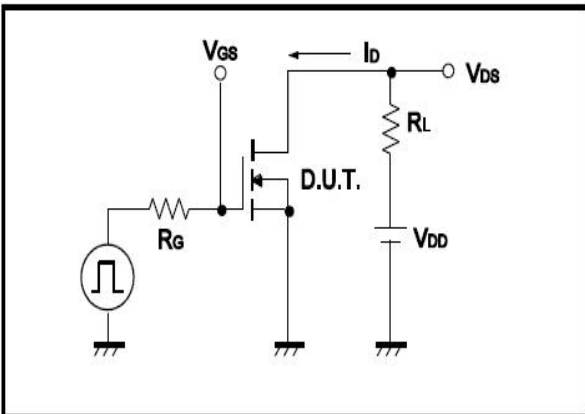


Fig.10 Gate Charge Waveform

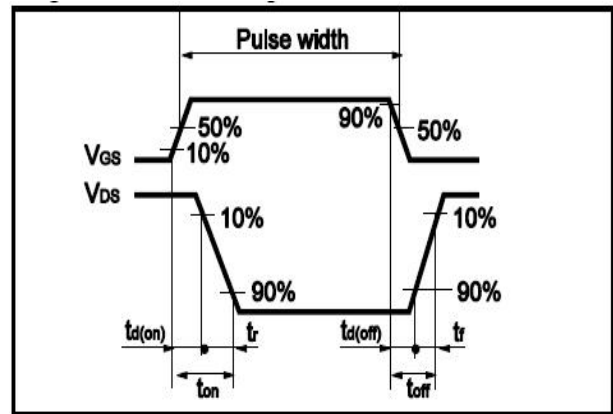


Fig.11 Avalanche Measurement Circuit

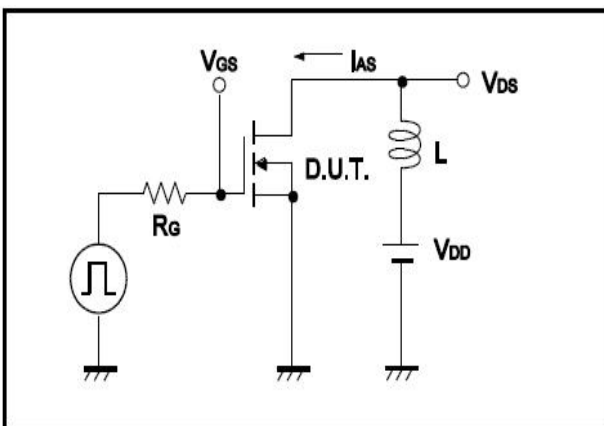
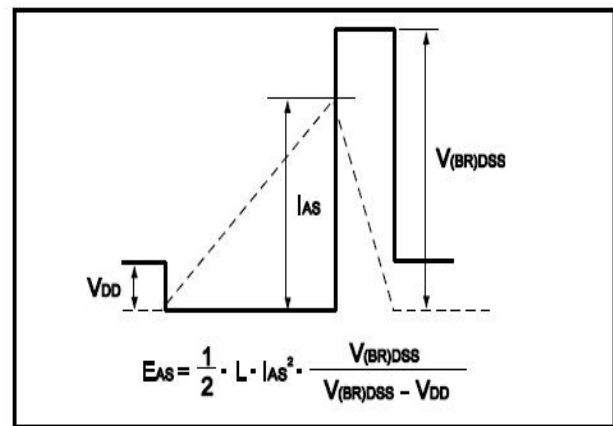
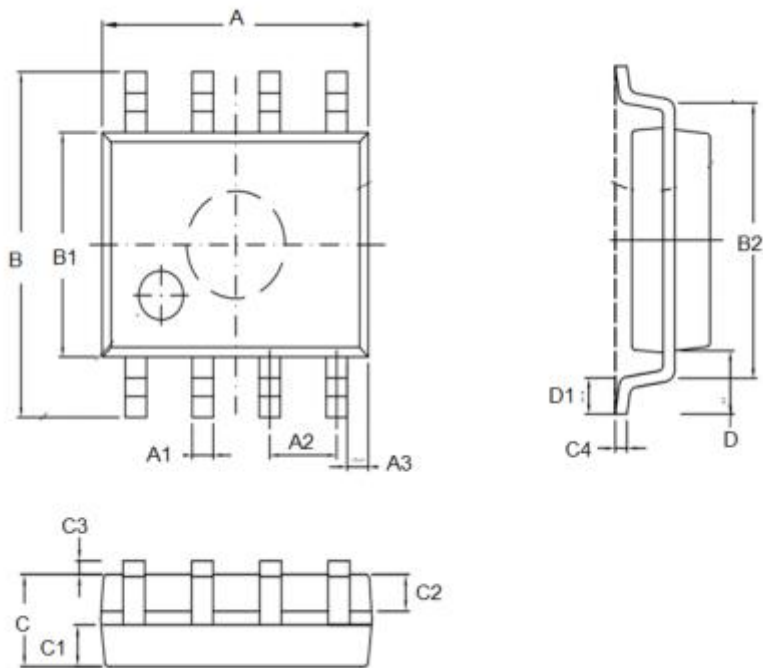


Fig.12 Avalanche Waveform



**●Dimensions(SOP8)**

SYMBOL	min	TYP	max	SYMBOL	min		max
A	4.80		5.00	C	1.30		1.50
A1	0.37		0.47	C1	0.55		0.75
A2		1.27		C2	0.55		0.65
A3		0.41		C3	0.05		0.20
B	5.80		6.20	C4	0.19	0.20	0.23
B1	3.80		4.00	D		1.05	
B2		5.00		D1	0.40		0.62



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