

**DESCRIPTION**

The AM4822 is available in SOP8 package.

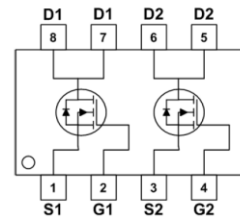
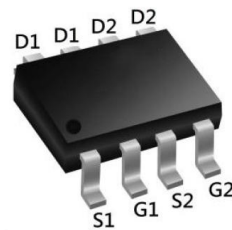
BVDSS	RDSON	ID
30V	15mΩ	8.5A

APPLICATION

- Green Device Available
- Super Low Gate Charge
- 100% EAS Guaranteed
- Excellent CdV//dt Effect Decline
- Advanced High Cell Density Trench Technology

FEATURE

- Low Gate Charge
- Available in SOP8 package.

PIN DESCRIPTION**ORDERING INFORMATION**

Package Type	Part Number	
SOP8 SPQ: 3,000/Reel	M8	AM4822M8VR
Note	R: Tape & Reel V: Halogen free Package	
AiT provides all RoHS products		

Pin #	Symbol	Function
1, 3	S	Source
2, 4	G	Gate
5, 6, 7, 8	D	Drain

ABSOLUTE MAXIMUM RATINGS

V _{DS} , Drain-Source Voltage	30V
V _{GS} , Gate-Source Voltage	±20V
I _D , Continuous Drain Current, V _{GS} @10V	T _A = 25 °C 8.5A T _A = 70 °C 5.8A
I _{DM} , Drain Current-Pulsed	37A
EAS, Single Pulse Avalanche Energy	22.1mJ
I _{AS} , Avalanche Current	12A
P _D , Total Power Dissipation	T _A = 25 °C 1.5W
T _{STG} , Storage Temperature Range	-50°C ~ +150°C
T _J , Operating Junction Temperature Range	-50°C ~ +150°C
R _{θJA} , Thermal Resistance Junction-Ambient	85°C/W
R _{θJC} , Thermal Resistance Junction-Case	25°C/W

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

**ELECTRICAL CHARACTERISTICS**T_J= 25°C, unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	30	-	-	V
BVDSS Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =1mA	-	0.034	-	V/°C
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =24V, V _{GS} =0V, T _J = 25°C	-	-	1	μA
		V _{DS} =24V, V _{GS} =0V, T _J = 55°C	-	-	5	
Gate to Body Leakage Current	I _{GSS}	V _{DS} = 0V, V _{GS} =±20V	-	-	±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	1.2	-	2.5	V
V _{GS(th)} Temperature Coefficient	ΔV _{GS(th)}		-	-5.8	-	mV/°C
Forward Transconductance	g _{fs}	V _{DS} = 5V, I _D =7A	-	6	-	S
Gate Resistance	R _g	V _{DS} = 0V, V _{GS} =0V, f=1.0MHz	-	2.5	-	Ω
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =7A	-	15	18	mΩ
		V _{GS} =4.5V, I _D =4A	-	22	28	
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1.0MHz	-	572	-	pF
Output Capacitance	C _{oss}		-	80	-	
Reverse Transfer Capacitance	C _{rss}		-	65	-	
Total Gate Charge	Q _g	V _{DS} =15V, I _D =7A, V _{GS} =4.5V	-	6	-	nC
Gate-Source Charge	Q _{gs}		-	2.5	-	
Gate-Drain ("Miller") Charge	Q _{gd}		-	2.1	-	
Turn-On Delay Time	t _{d(on)}	V _{DS} =15V, I _D =7A, R _{GEN} =3.3Ω, V _{GS} =10V	-	2.4	-	nS
Turn-On Rise Time	t _r		-	7.8	-	
Turn-Off Delay Time	t _{d(off)}		-	22	-	
Turn-Off Rise Time	t _f		-	4	-	
Continuous Source Current	I _S	V _G =V _D =0V, Force Current	-	-	7.3	A
Pulsed Source Current	I _{SM}		-	-	37	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =1A, T _J = 25°C	-	-	1.20	V
Reverse Recovery Time	t _{rr}	I _F =7A, dI/dt=100A/μs,	-	20	-	ns
Reverse Recovery Charge	Q _{rr}	T _J = 25°C	-	1.1	-	nC



TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Typical Output Characteristics

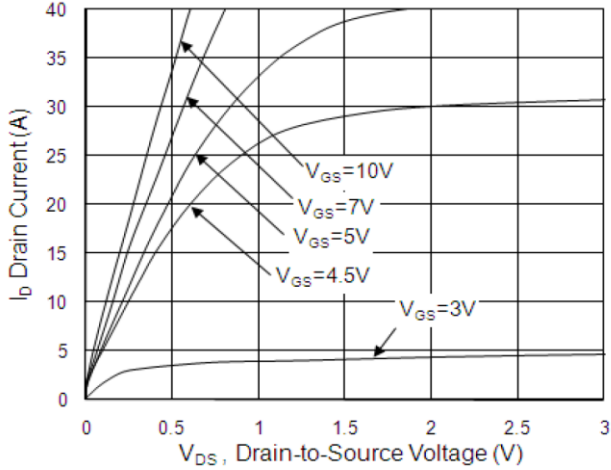


Fig 2. On-Resistance vs. G-S Current

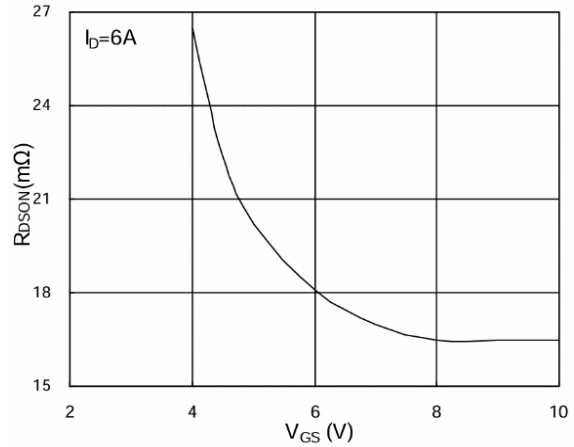


Fig 3. Reverse Forward Characteristics

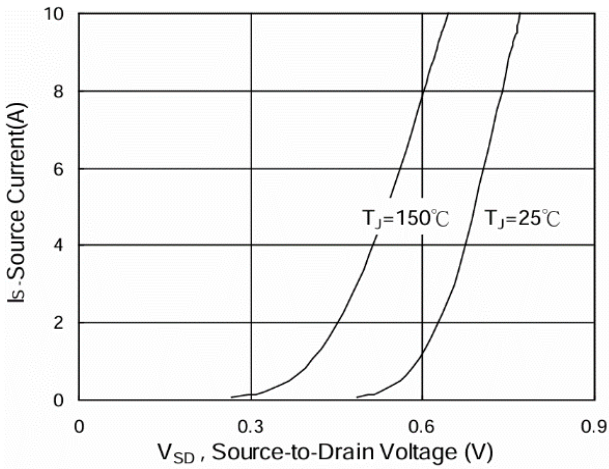


Fig 4. Gate-Charge Characteristics

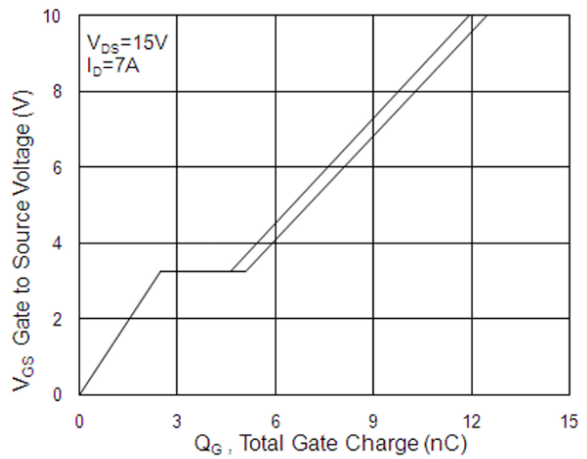


Fig 5. Normalized $V_{GS(th)}$ vs. T_J

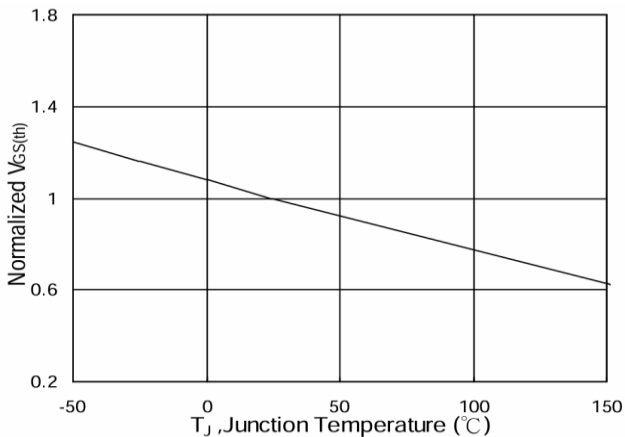


Fig 6. Normalized $R_{DS(on)}$ vs. T_J

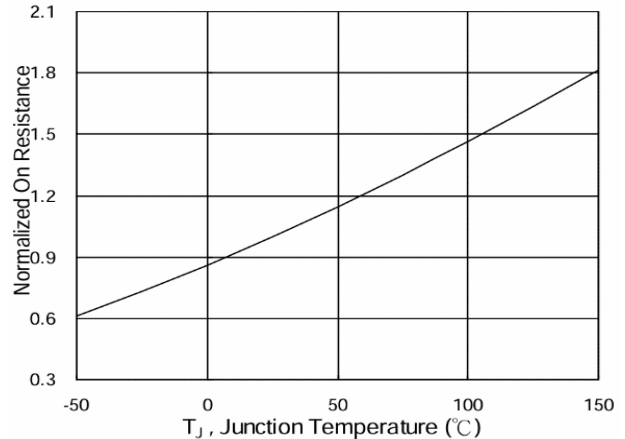




Fig 7. Capacitance

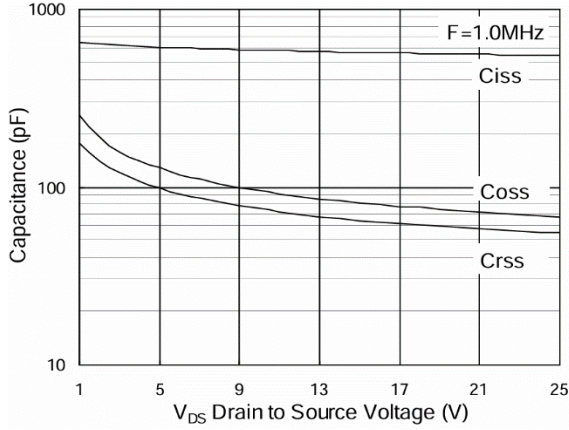


Fig 8. Safe Operating Area

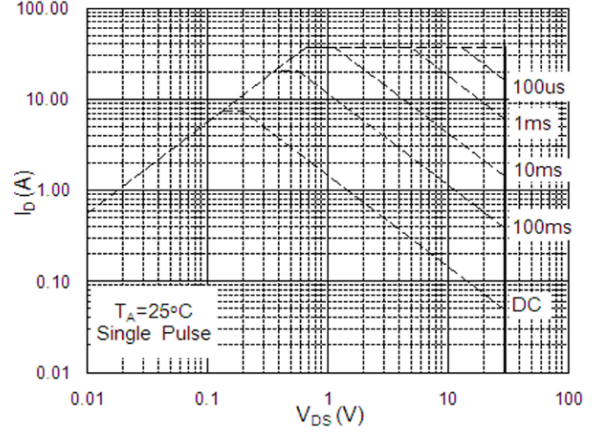


Fig 9. Normalized Maximum Transient Thermal Impedance

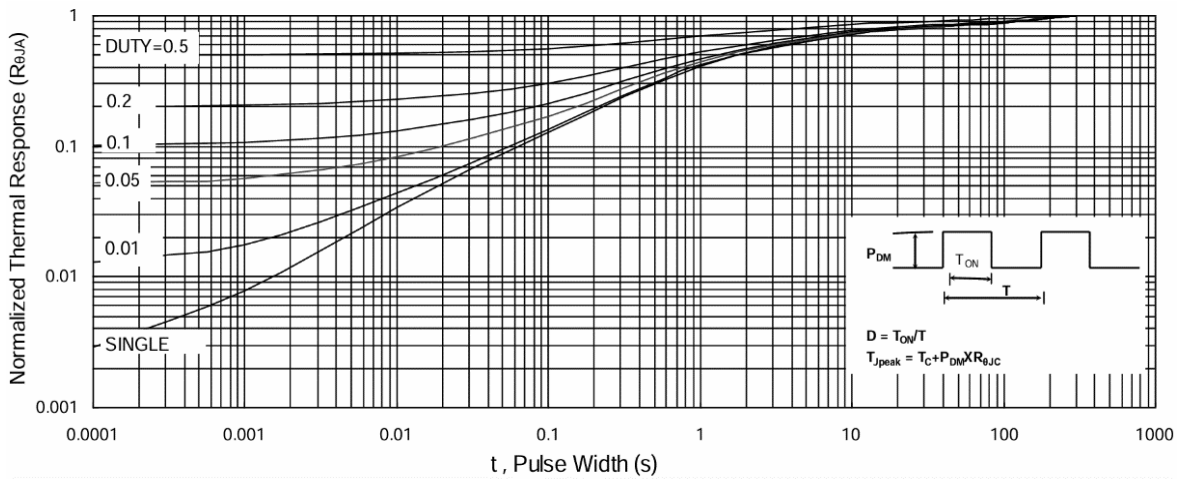


Fig 10. Switching Time Waveform

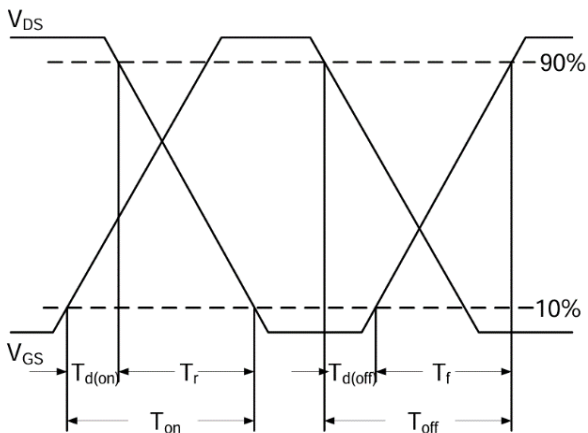
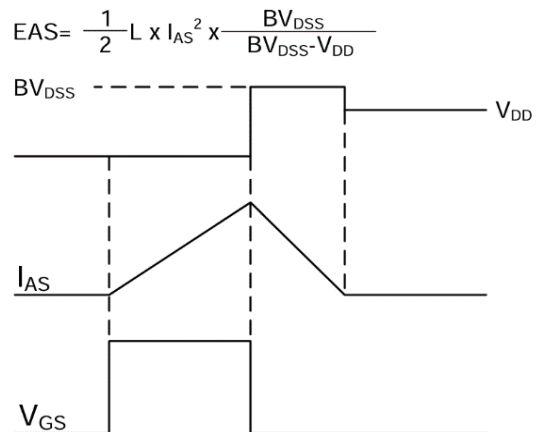


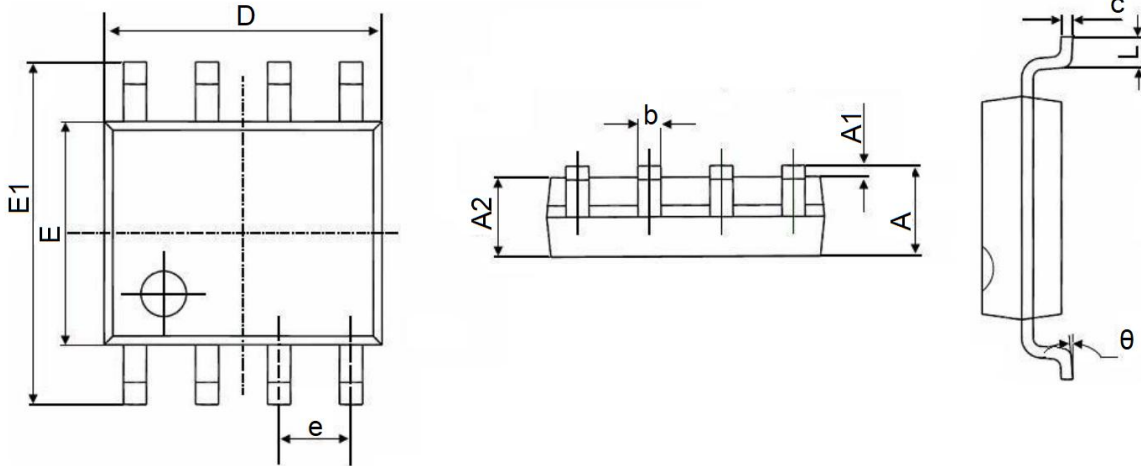
Fig 11. Unclamped Inductive Switching Waveform





PACKAGE INFORMATION

Dimension in SOP8 (unit: mm)



Symbol	Millimeters	
	Min.	Max.
A	1.350	1.750
A1	0.100	0.250
A2	1.350	1.550
b	0.330	0.510
c	0.170	0.250
D	4.700	5.100
E	3.800	4.000
E1	5.800	6.200
e	1.270 BSC	
L	0.400	1.270
θ	0°	8°



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