

**DESCRIPTION**

The AM4828 is available in SOP8 Package.

BVDSS	RDS(ON)	ID
60V	13mΩ@10V	8A
	18mΩ@4.5V	

APPLICATION

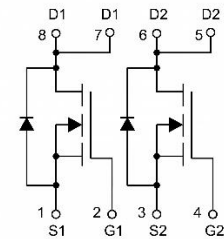
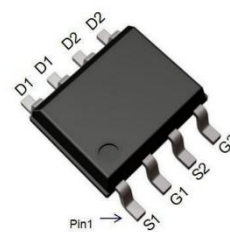
- Power Switching Application
- Hard switched and high frequency circuits
- Uninterruptible Power Supply

ORDERING INFORMATION

Package Type	Part Number	
SOP8 SPQ: 4,000pcs/Reel	M8	AM4828M8R
Note	R: Tape & Reel	
AiT provides all RoHS products		

FEATURE

- Fast Switching
- $R_{DS(ON)}$, Typ= 13mΩ @ $V_{GS}=10V$
- $R_{DS(ON)}$, Typ= 18mΩ @ $V_{GS}=4.5V$
- Low Gate Charge and Rdson
- 100%Single Pulse avalanche energy Test

PIN DESCRIPTION

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

ABSOLUTE MAXIMUM RATINGS

$T_A = 25^{\circ}\text{C}$, unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DS}	60	V
Gate-to-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	8	A
Pulsed Drain Current	I_{DM}	32	A
Single Pulse Avalanche Energy ¹	E_{AS}	30	mJ
Power Dissipation	P_D	3	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	41.7	$^{\circ}\text{C/W}$

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_A = 25°C, unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	60	-	-	V
Drain to Source Leakage Current	I _{DSS}	V _{DS} =48V, V _{GS} =0V	-	-	1	μA
Gate to Source Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} =0V	-	-	±100	nA
Drain-to-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =8A	-	13	18	mΩ
		V _{GS} =4.5V, I _D =6A	-	18	26	
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} = V _{DS} , I _D = 250μA	1.0	1.5	2.5	V
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 30V f = 1.0MHz	-	2403	-	pF
Output Capacitance	C _{oss}		-	130	-	
Reverse Transfer Capacitance	C _{rss}		-	116	-	
Total Gate Charge	Q _g	V _{GS} = 10V, V _{DS} =30V, I _D =5A	-	39	-	nC
Gate to Source Charge	Q _{gs}		-	5.6	-	
Gate to Drain Charge	Q _{gd}		-	9.5	-	
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{GS} =10V, V _{DD} =30V, I _D =5A, R _G =3Ω	-	7.8	-	ns
Rise Time	t _r		-	48	-	
Turn-Off Delay Time	t _{d(off)}		-	28	-	
Fall Time	t _f		-	30	-	
Drain-Source Body Diode Characteristics						
Maximum Pulsed Current (Body Diode)	I _{SM}	-	-	-	8	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V	-	-	1.2	V
Reverse Recovery Time	T _{rr}	I _S =5A, T _J = 25°C,	-	19	-	ns
Reverse Recovery Charge	Q _{rr}	di/dt=100A/us	-	84	-	nC

Notes:

1. The EAS Test condition is V_{DD}=30V, V_{GS}=10V, L=0.5mH, R_G=25Ω



TYPICAL PERFORMANCE CHARACTERISTICS

Fig1. Typical Output Characteristics

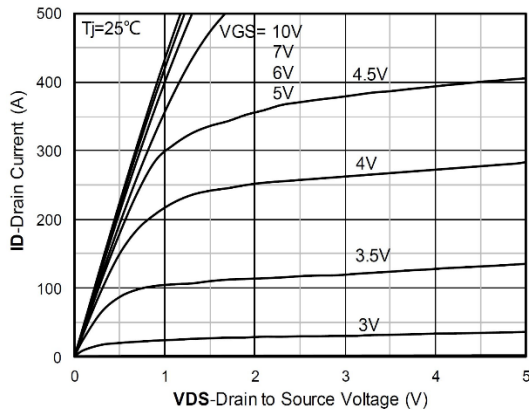


Fig 2. Typical Transfer Characteristics

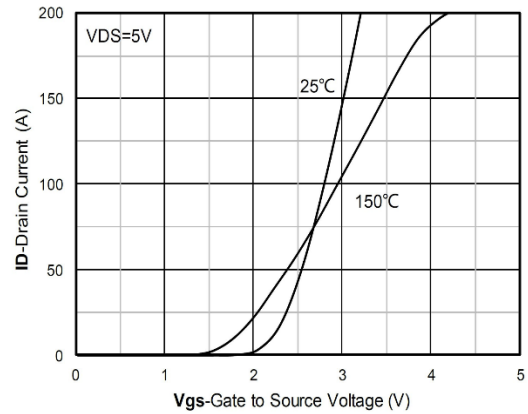


Fig 3. Capacitance Characteristics

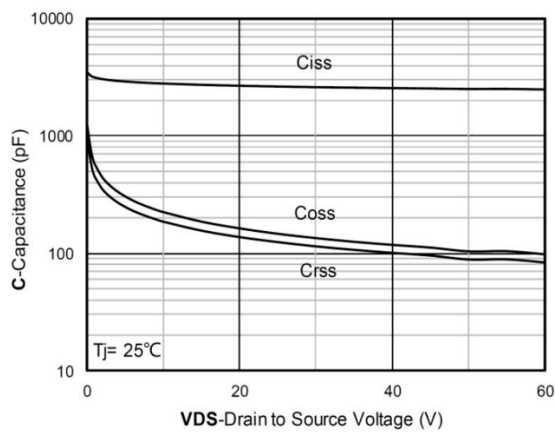


Fig 4. Gate Charge

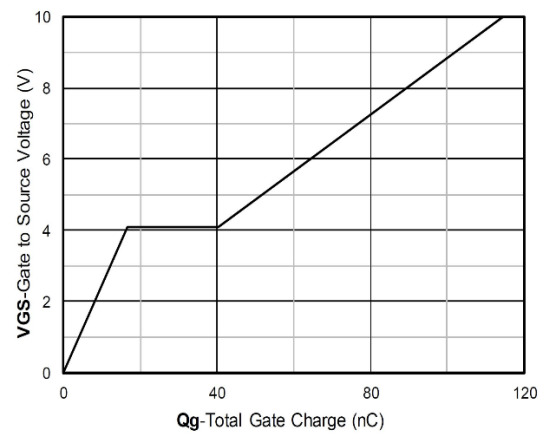


Fig 5. Current Dissipation

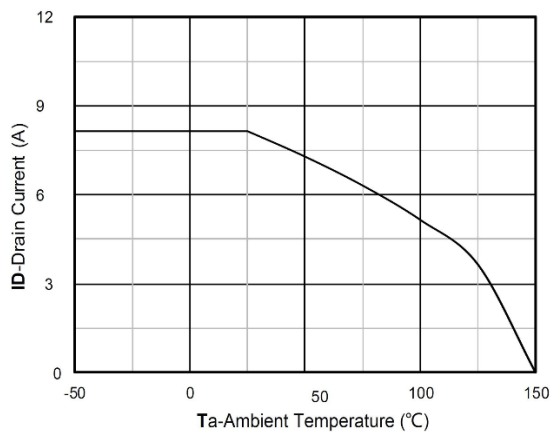


Fig 6. Power Dissipation

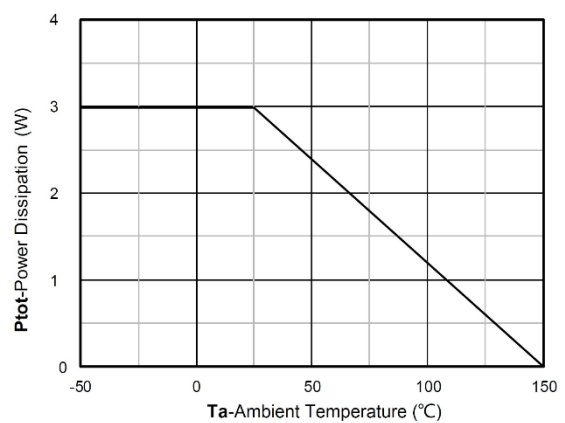




Fig7. $R_{DS(on)}$ vs. Drain Current

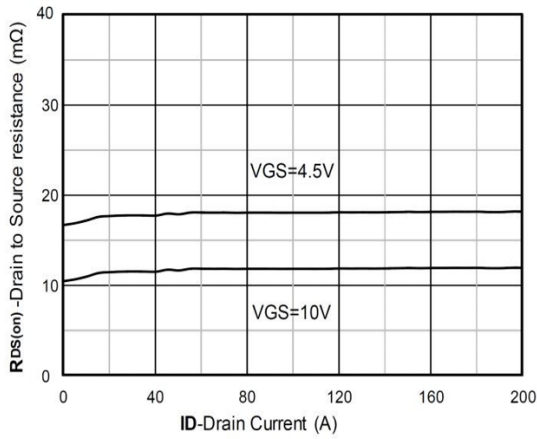


Fig 8. Forward Characteristics of Reverse Diode

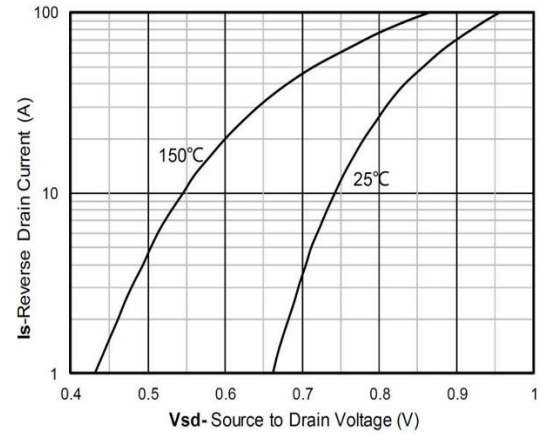


Fig 9. Normalized Breakdown Voltage

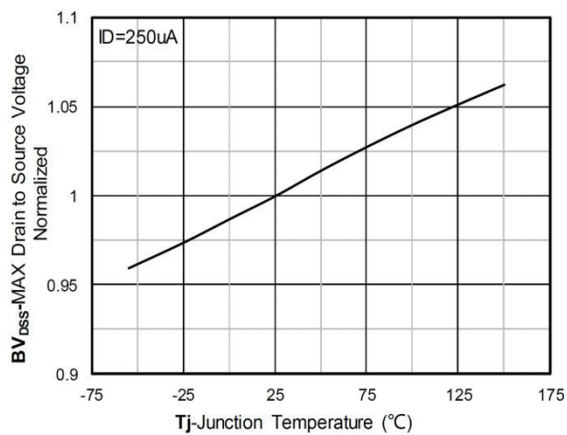


Fig 10. Normalized Threshold Voltage

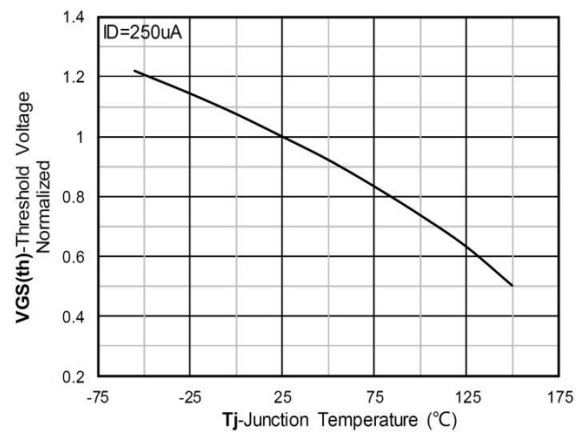


Fig 11. Maximum Transient Thermal Impedance

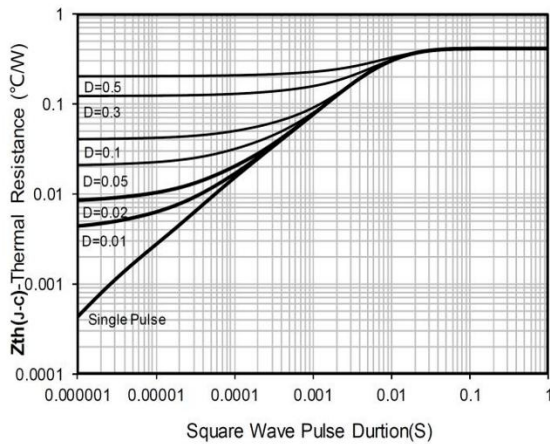
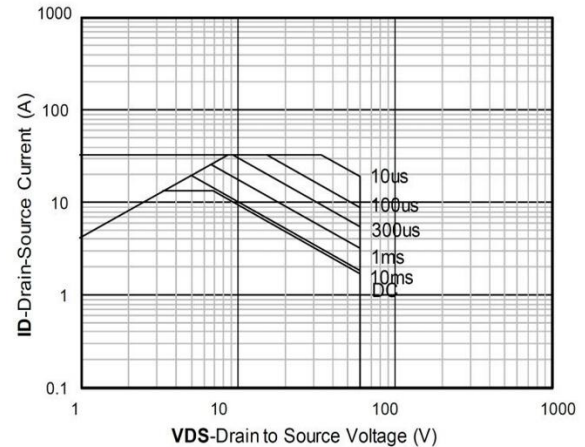


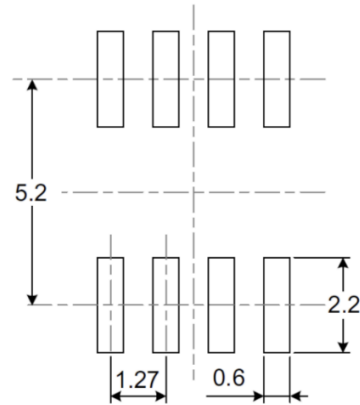
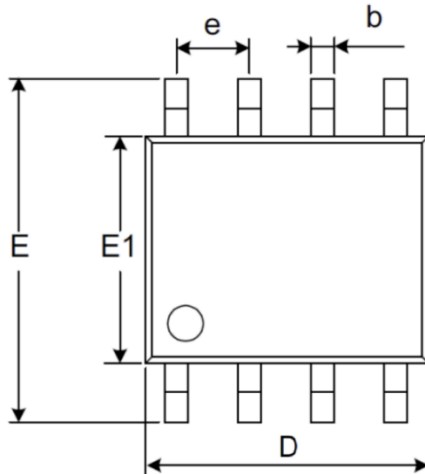
Fig 12. Safe Operation Area



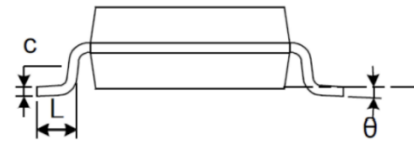
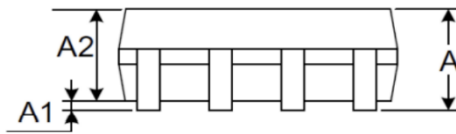


PACKAGE INFORMATION

Dimension in SOP8 (Unit: mm):



RECOMMEND LAND PATTERN



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	4.800	5.000
E	5.800	6.200
E1	3.800	4.000
e	1.270 BSC	
L	0.400	1.270
θ	0°	8°



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