DESCRIPTION

The AM4826 is available in SOP8 Packages.

BVDSS	RDSON	ID
60V	26mΩ	15A

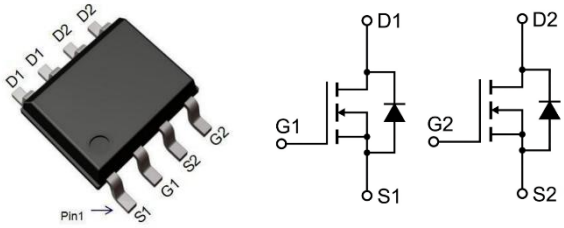
FEATURE

- Fast Switching
- $R_{DS(ON)}$, Typ= 26mΩ @V_{GS}=10V
- Super Low Gate Charge
- Excellent CdV/dt effect decline
- Advanced high cell density Trench technology

APPLICATION

- DC-DC Converter
- Load Switch
- Power Management

PIN DESCRIPTION



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

ORDERING INFORMATION

Package Type	Part Number	
SOP8 SPQ: 4,000pcs/Reel	M8	AM4826M8R
Note	R: Tape & Reel	
AiT provides all RoHS products		

ABSOLUTE MAXIMUM RATINGS

T_A = 25°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	15	A
Continuous Drain Current	T_C = 100 °C		4.5	
Pulsed Drain Current [2]		I_{DM}	22	A
Single Pulse Avalanche Energy [3]		E_{AS}	22	mJ
Avalanche Current		I_{AS}	23	A
Power Dissipation[4]		P_D	1.5	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	℃
Thermal Resistance Junction-ambient [1]		$R_{\theta JA}$	85	℃/W
Thermal Resistance Junction to Case [1]		$R_{\theta JC}$	25	℃/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}=60V, V_{GS}=0V	-	-	1.0	μA
Gate to Source Leakage Current	I_{GSS}	V_{GS} = ±20V, V_{DS}=0V	-	-	±100	nA
Drain-to-Source On-Resistance[3]	$R_{DS(ON)}$	V_{GS}=10V, I_D=5A	-	26	38	mΩ
		V_{GS}=4.5V, I_D=3A	-	34	48	
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = 250μA	1.0	1.6	2.5	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 25V f = 1.0MHz	-	1148	-	pF
Output Capacitance	C_{oss}		-	58.5	-	
Reverse Transfer Capacitance	C_{rss}		-	49.4	-	
Total Gate Charge	Q_g	V_{GS} = 10V, V_{DS} =30V, I_D =2.5A	-	20.3	-	nC
Gate to Source Charge	Q_{gs}		-	3.7	-	
Gate to Drain Charge	Q_{gd}		-	5.3	-	
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{GS}=10V, V_{DS}=30V, I_D =5A, R_G =1.8Ω	-	7.6	-	ns
Rise Time	t_r		-	20	-	
Turn-Off Delay Time	$t_{d(off)}$		-	15	-	
Fall Time	t_f		-	24	-	
Drain-Source Body Diode Characteristics						
Maximum Continuous Drain to Source Diode Forward Current	I_S	-	-	-	15	A
Maximum Pulsed Current (Body Diode)	I_{SM}	-	-	-	20	A
Diode Forward Voltage	V_{SD}	I_S=5A, V_{GS}=0V	-	-	1.2	V
Reverse Recovery Time	T_{rr}	I_F=5A, T_J = 25°C, di/dt=100A/us	-	29	-	ns
Reverse Recovery Charge	Q_{rr}		-	43	-	nC

TYPICAL PERFORMANCE CHARACTERISTICS

Fig1. Typical Output Characteristics

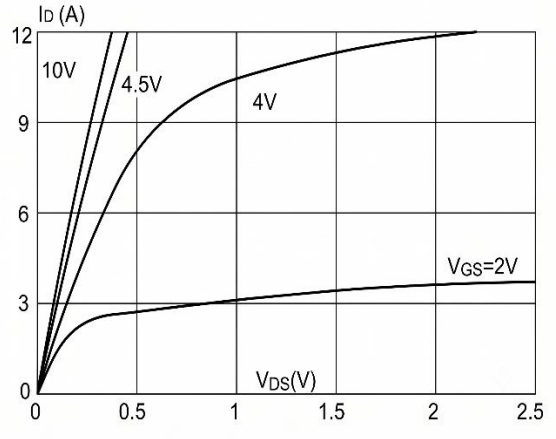


Fig 2. Typical Transfer Characteristics

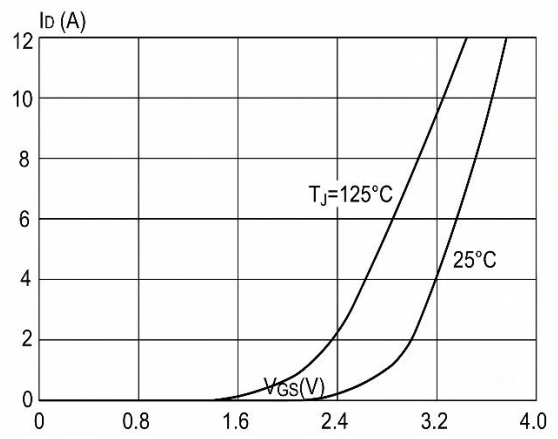


Fig 3. On-resistance vs. Drain Current

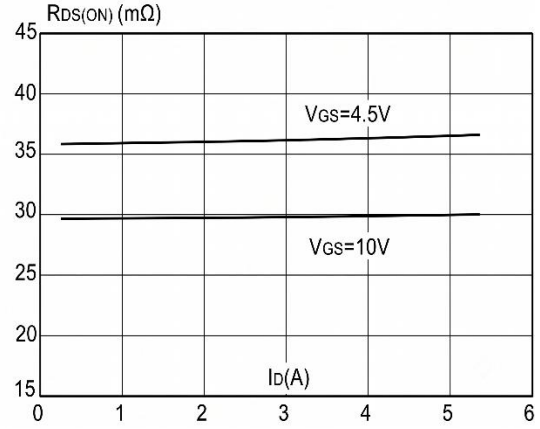


Fig 4. Body Diode Characteristics

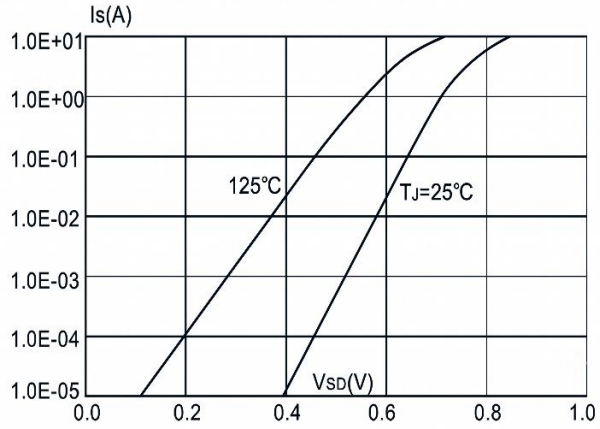


Fig 5. Gate Charge Characteristics

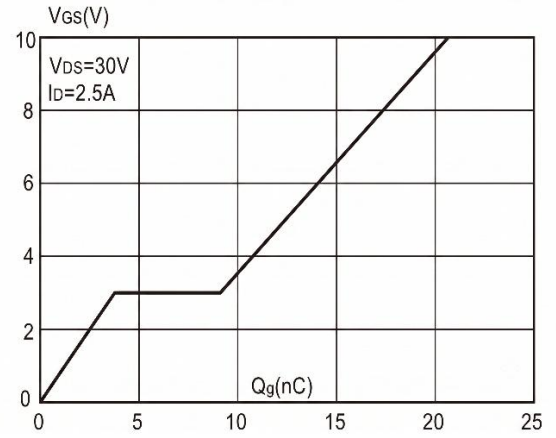


Fig 6. Capacitance Characteristics

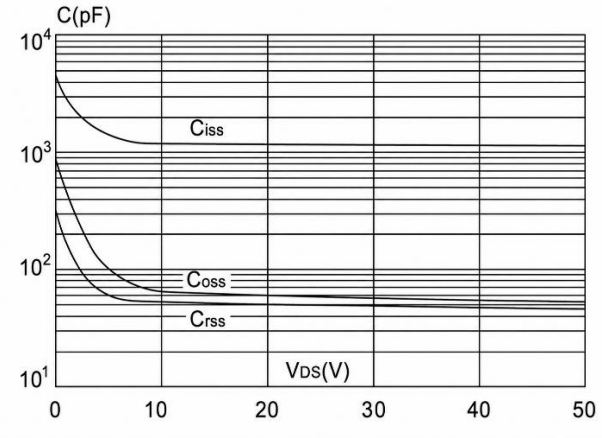


Fig 7. Normalized Breakdown Voltage vs. Junction Temperature

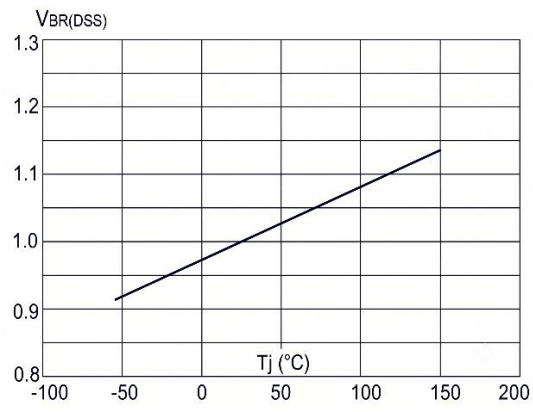


Fig 8. Normalized on Resistance vs. Junction Temperature

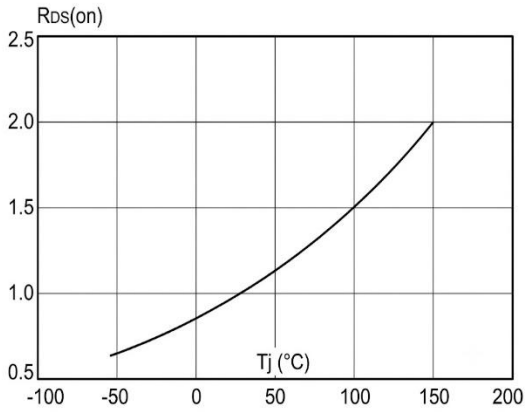


Fig 9. Maximum Safe Operating Area

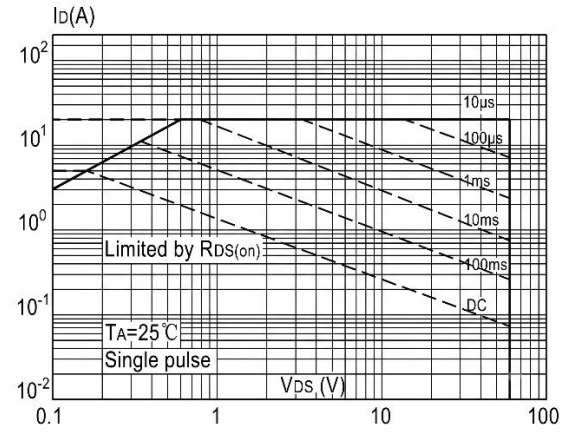


Fig 10. Maximum Continuous Drain Current vs. Ambient Temperature

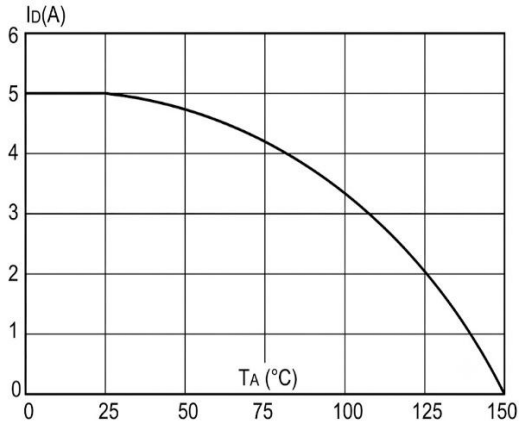
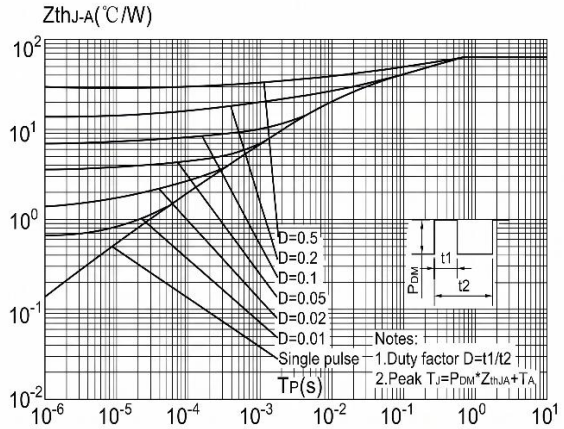
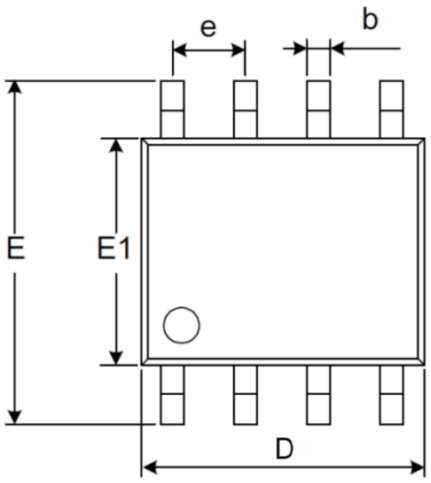


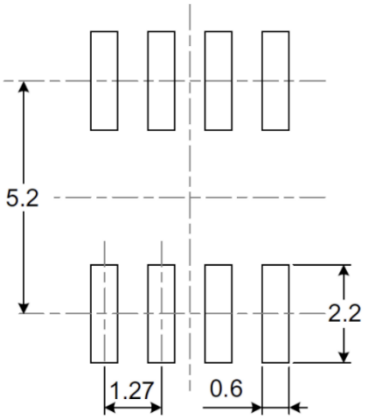
Fig 11. Maximum Effective Transient Thermal Impedance, Junction-to-Ambient



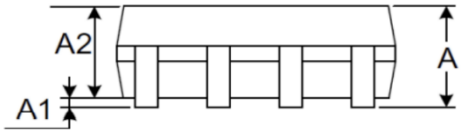
PACKAGE INFORMATION

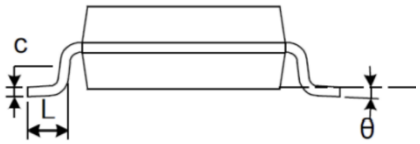
Dimension in SOP8 (Unit: mm):





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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