DESCRIPTION

The AM4435 is the P-Channel logic enhancement mode power field effect transistor is produced using high cell density. Advanced trench technology to provide excellent $R_{DS(ON)}$.

These devices are particularly suited for low voltage application such as cellular phone and notebook computer power management and other batter powered circuits where high-side switching.

The AM4435 is available in SOP8 Package

ORDERING INFORMATION

Package Type	Part Number	
SOP-8	M8	AM4435M8R
		AM4435M8VR
Note	R: Tape & Reel V: Green Package	
AiT provides all Pb free products Suffix " V " means Green Package		

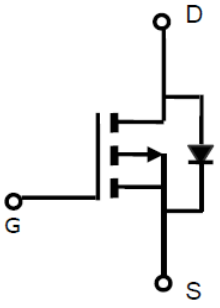
FEATURES

- -30V/-8.0A, $R_{DS(ON)}$=16mΩ(typ)@V_{GS} =-10V
- -30V/-5.0A, $R_{DS(ON)}$=26mΩ(typ)@V_{GS} =-4.5V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- Full RoHS compliance
- Available in SOP8 Package

APPLICATION

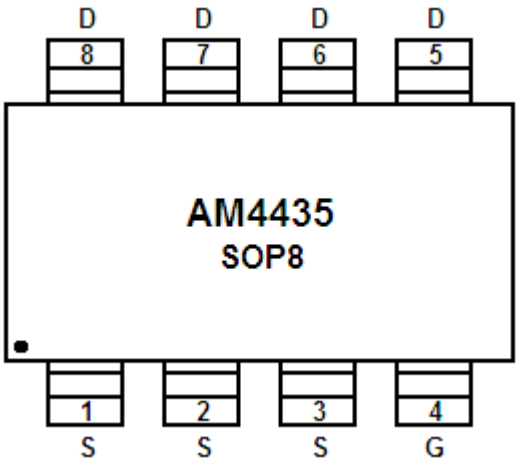
- Inverter
- Synchronous Buck
- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

P-CHANNEL MOSFET



P-Channel

PIN DESCRIPTION



Top View

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

ABSOLUTE MAXIMUM RATINGS

T_A = 25℃ Unless otherwise specified

V_{DSS}, Drain-Source Voltage		-30V
V_{GSS}, Gate-Source Voltage		±20V
I_D, Continuous Drain Current (T_J=150℃)	V_{GS} = -10V	-9A
I_{DM}, Pulsed Drain Current		-30A
I_S, Continuous Source Current (Diode Conduction)		-2.3A
T_J, Operation Junction Temperature		-55℃~150℃
T_{STG}, Storage Temperature Range		-55℃~150℃
P_D, Power Dissipation		
T_A=25°C		2.8W
T_A=70°C		1.8W

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.

THERMAL INFORMATION

Parameter	Symbol	Min	Typ	Max	Unit
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$			70	℃/W

ELECTRICAL CHARACTERISTICS

T_A = 25℃ Unless otherwise specified

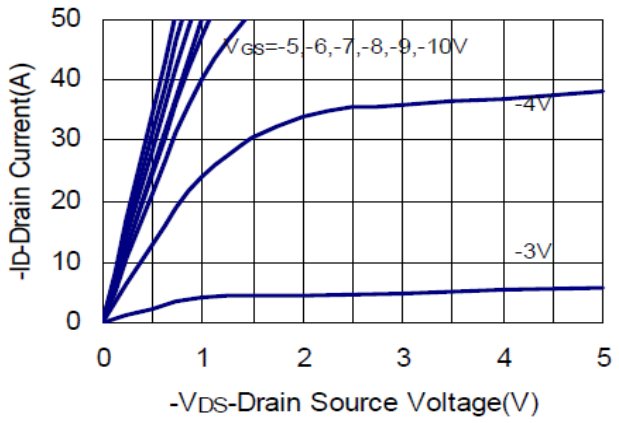
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} =0V,I_D =-250μA	-30	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS},I_D =-250μA	-1.0	-	-2.5	V
Gate Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=±20V	-	-	±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =-24V,V_{GS} =0V	-	-	-1	μA
		V_{DS} =-24V,V_{GS} =0V T_J =55°C	-	-	-5	
On-State Drain Current	$I_{D(ON)}$	V_{DS} ≦ -5V,V_{GS} ≦ -4.5V	-40	-	-	A
Drain-source On-Resistance	$R_{DS(ON)}$	V_{GS} =-10V,I_D=-9.0A	-	16	21	mΩ
		V_{GS} =-4.5V, I_D=-5.0A	-	26	34	
Forward Transconductance	G_{fs}	V_{DS} =-15V,I_D =-9.0A	-	24	-	S
Source-Drain Doide						
Diode Forward Voltage	V_{SD}	I_S=-2.3A,V_{GS}=0V	-	-0.8	-1.2	V
Dynamic Parameters						
Total Gate Charge	Q_g	V_{DS} =-15V,V_{GS} =-10V I_D =-9.0A	-	16	24	nC
Gate-Source Charge	Q_{GS}		-	2.3	-	
Gate-Drain Charge	Q_{GD}		-	4.5	-	
Input Capacitance	C_{iss}	V_{DS} =-15V,V_{GS} =0V f =1MHz	-	1650	-	pF
Output Capacitance	C_{oss}		-	350	-	
Reverse Transfer Capacitance	C_{rss}		-	235	-	
Turn-On Time	$t_{d(on)}$	V_{DD} =-15V,R_L =15Ω I_D =-1.0A,V_{GEN} =-10V R_G =6Ω	-	16	30	nS
	T_r		-	17	30	
Turn-Off Time	$t_{d(off)}$		-	65	110	
	T_f		-	35	80	

Note : Pulse test: pulse width <= 300us, duty cycle<= 2%

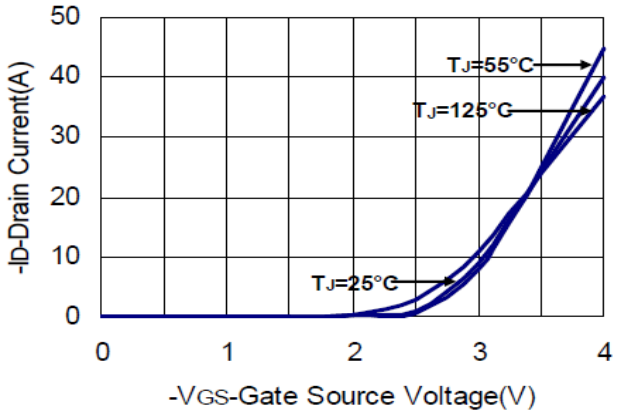
TYPICAL CHARACTERISTICS

T_A=25℃ Unless Specified

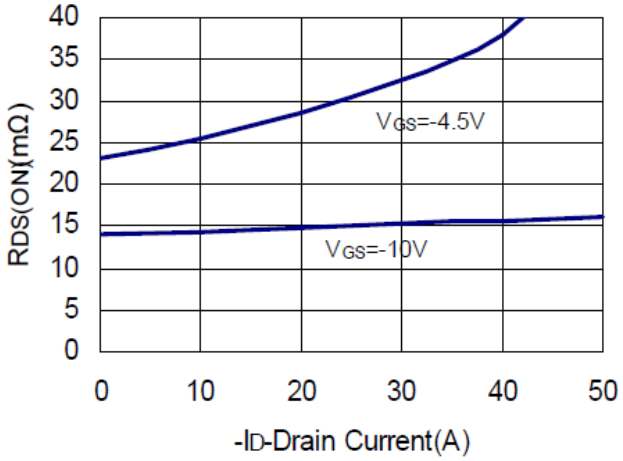
1. Output Characteristics



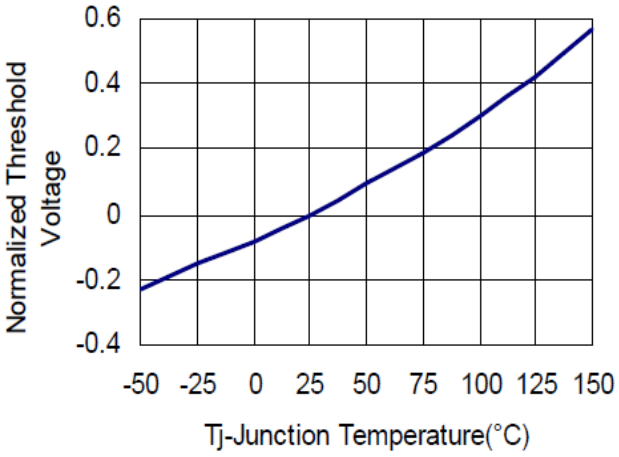
2. Transfer Characteristics



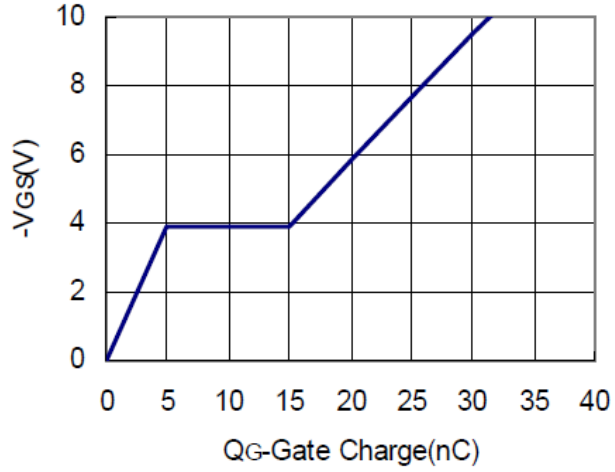
3. Drain Source On Resistance



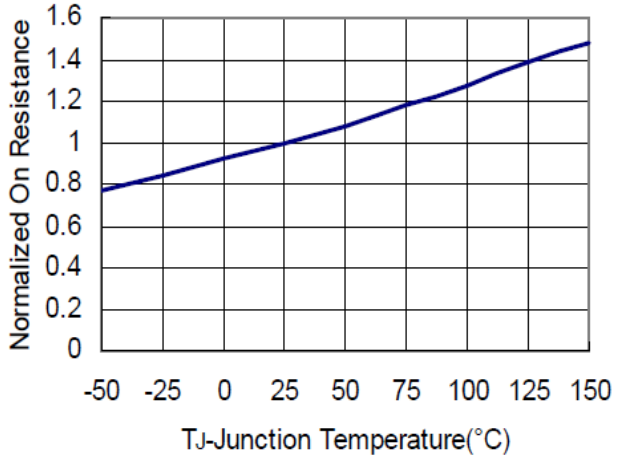
4. Gate Threshold Voltage



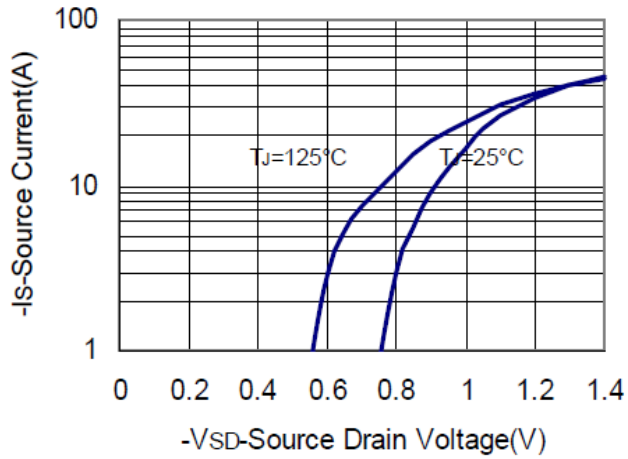
5. Gate Charge



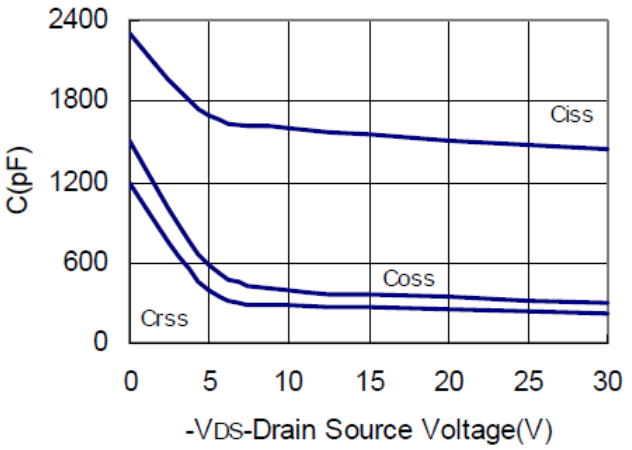
6. Drain Source On Resistance



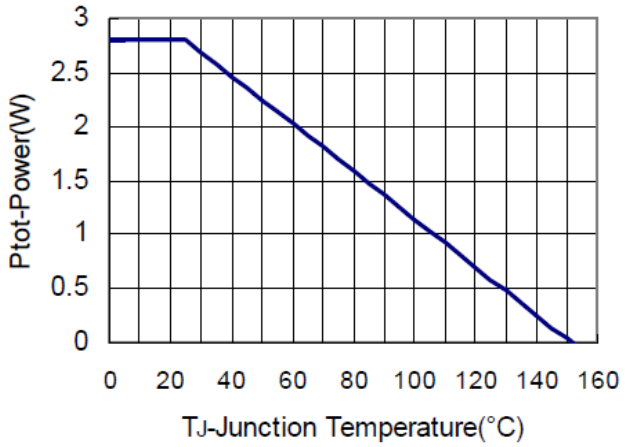
7. Source Drain Diode Forward



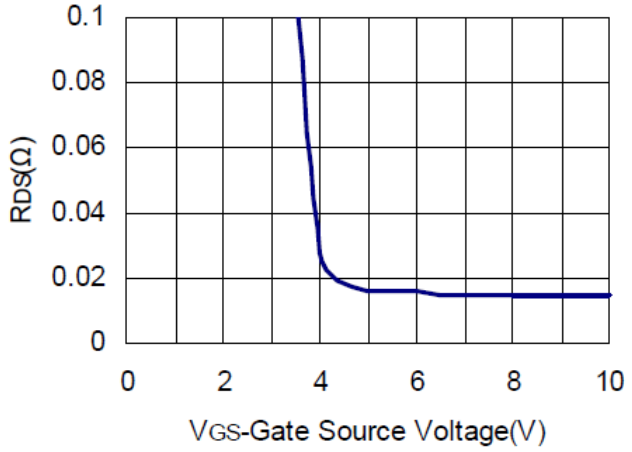
8. Capacitance



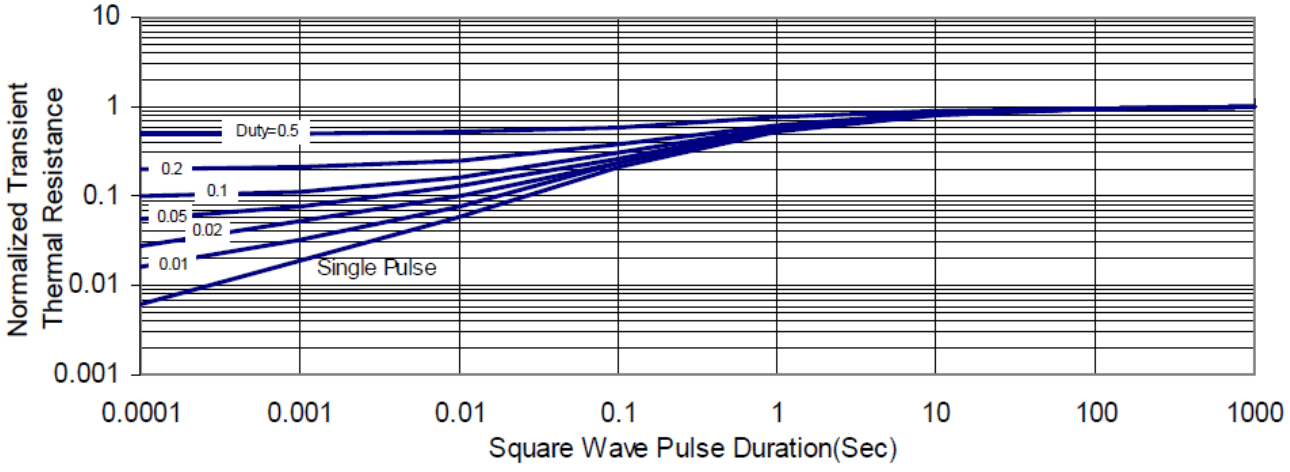
9. Power Dissipation



10. On Resistance VS Gate Source Voltage

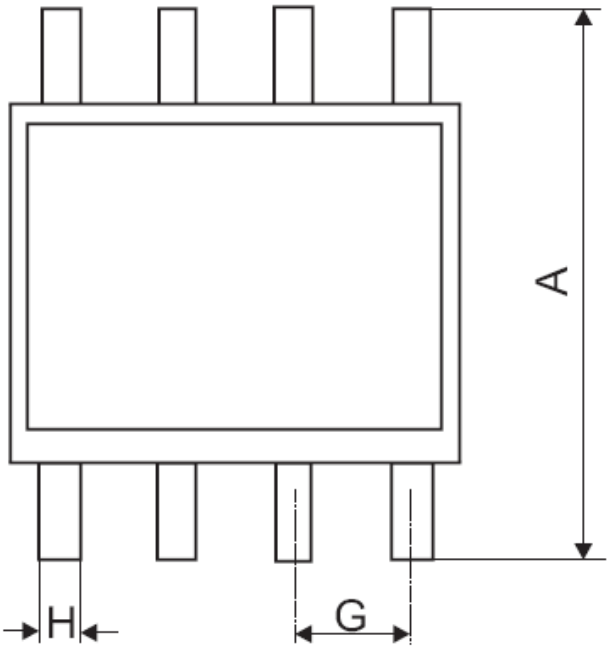


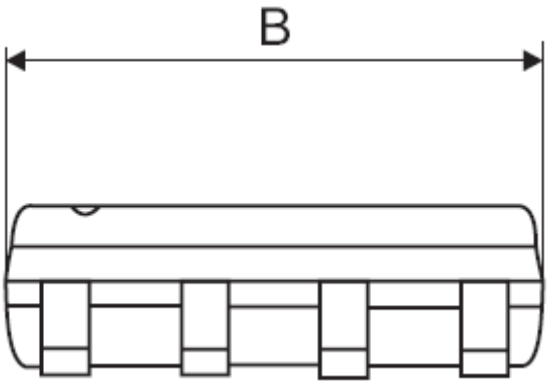
11. Thermal Transient Impedance

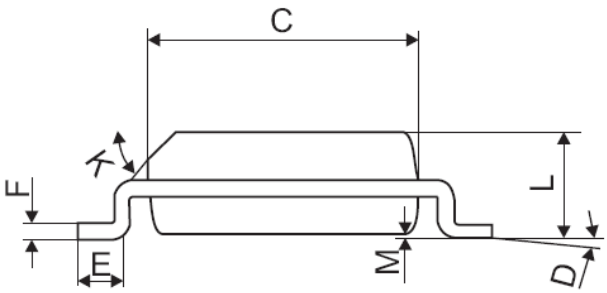


PACKAGE INFORMATION

Dimension in SOP-8 (Unit: mm)







Symbol	Min	Max
A	1.400	1.750
A1	0.100	0.250
A2	1.300	1.500
B	0.330	0.510
C	0.190	0.250
D	4.800	5.300
E	3.700	4.100
e	-	-
H	5.790	6.200
L	0.380	1.270
y	-	0.100
θ	0°	8°

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