



## DESCRIPTION

The AM3412 is available in SOT-23S Package Type

## FEATURES

- 50V/0.1A,  
 $R_{DS(ON)}=3.5\Omega(MAX) @V_{GS}=5V I_D = 0.1A$   
 $R_{DS(ON)} = 10\Omega(MAX) @V_{GS}= 2.75V. I_D = 0.1A$
- Super High dense cell design for extremely low  $R_{DS(ON)}$ .
- Reliable and Rugged.
- Low Threshold Voltage (0.5V- 1.5V) Make it Ideal for Low Voltage Applications.
- Available in SOT-23S Package

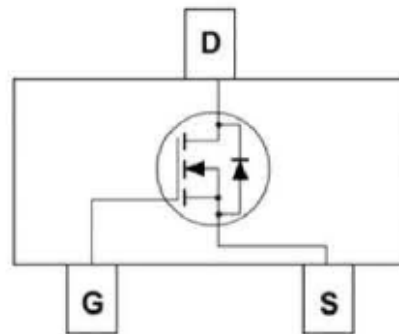
## ORDERING INFORMATION

Package Type	Part Number	
SOT-23S SPQ: 3,000pcs/Reel	E3S	AM3412E3SR
		AM3412E3SVR
Note	V: Halogen free Package R: Tape & Reel	
AiT provides all RoHS products		

## APPLICATIONS

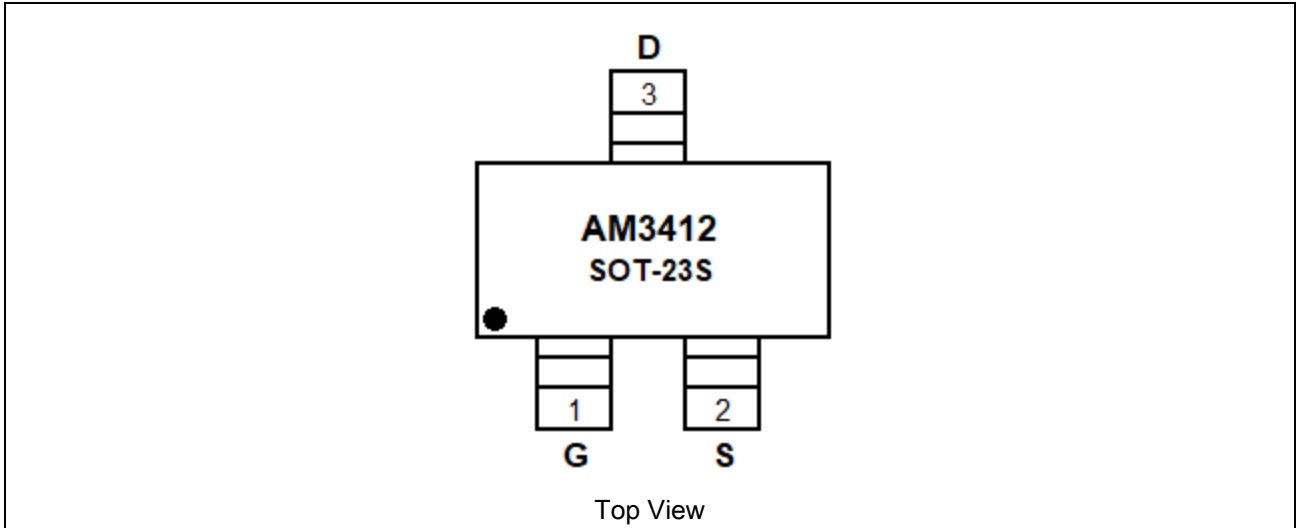
- Power Management in DC/DC Converters, Portable and Battery-powered Products.

## PIN DESCRIPTION





## PIN DESCRIPTION



Pin #	Symbol	Function
1	G	Gate
2	S	Source
3	D	Drain



## ABSOLUTE MAXIMUM RATINGS

T<sub>A</sub>=25°C, Unless otherwise noted

V <sub>DS</sub> , Drain-Source Voltage	50V
V <sub>GS</sub> , Gate-Source Voltage	±20V
I <sub>D</sub> , Drain Current Continuous	0.1A

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<sub>A</sub>=25°C, Unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Off Characteristics</b>						
Drain to Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	50	-	-	V
Zero-Gate Voltage, Drain-Source	I <sub>DSS</sub>	V <sub>DS</sub> =50V, V <sub>GS</sub> =0V	-	-	0.5	μA
		V <sub>DS</sub> =25V, V <sub>GS</sub> =0V	-	-	0.1	
Gate Body Leakage Current, Forward	I <sub>GSSF</sub>	V <sub>GS</sub> =20V, V <sub>DS</sub> =0V	-	-	100	nA
Gate Body Leakage Current, Reverse	I <sub>GSSR</sub>	V <sub>GS</sub> =-20V, V <sub>DS</sub> =0V	-	-	-100	nA
<b>On Characteristics</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>GS</sub> =V <sub>DS</sub> , I <sub>D</sub> =1.0mA	0.5	-	1.5	V
Static Drain-source On-Resistance	R <sub>DS(ON)</sub>	V <sub>GS</sub> =5.0V, I <sub>D</sub> =-0.2A	-	-	3.5	Ω
		V <sub>GS</sub> =2.75V, I <sub>D</sub> =0.2A	-	-	10	
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Drain-Source Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =0.2A	-	-	2.5	V



## TYPICAL CHARACTERISTICS

Figure 1. Output Characteristics

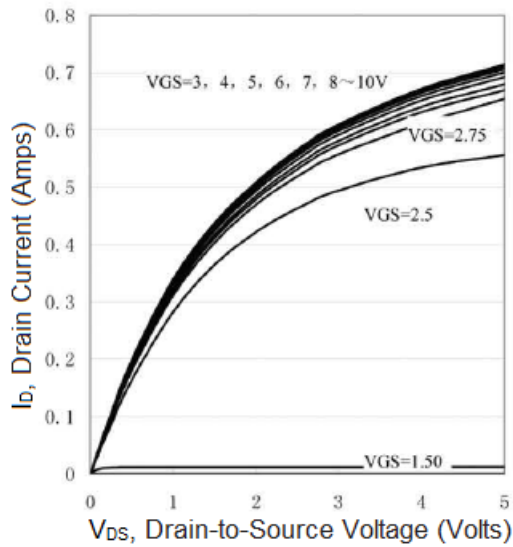


Figure 2. Transfer Characteristics

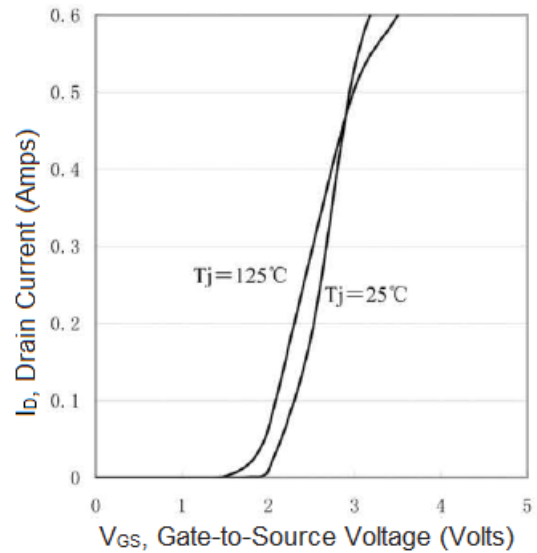


Figure 3. Breakdown Voltage Variation with Temperature

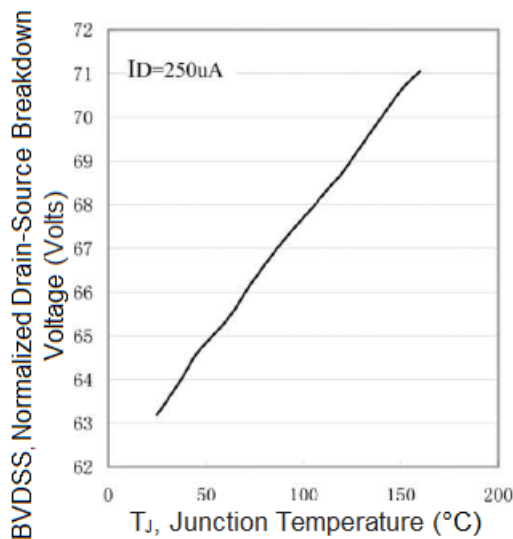


Figure 4. Gate Threshold Variation with Temperature

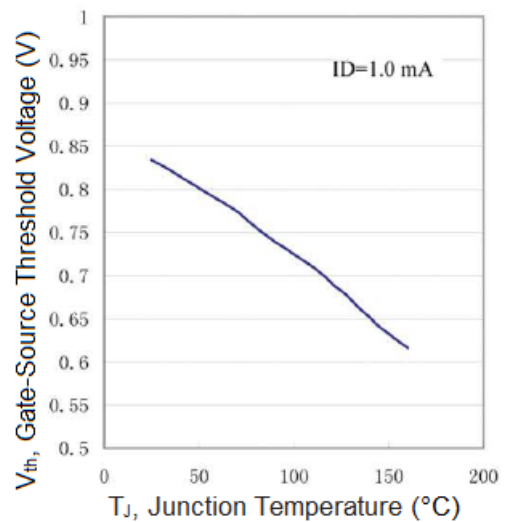




Figure 5. On-Resistance Variation with Temperature

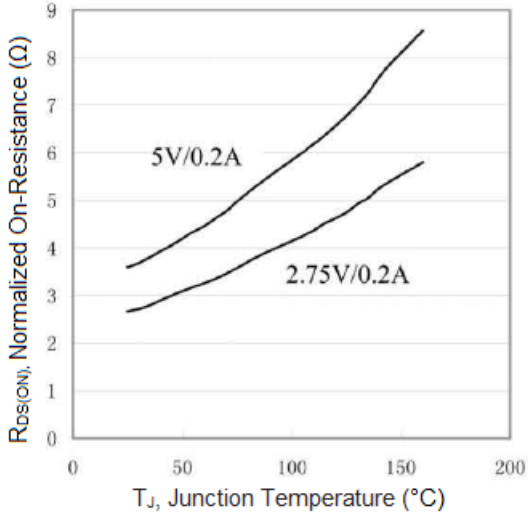


Figure 6. On-Resistance vs. Drain Current

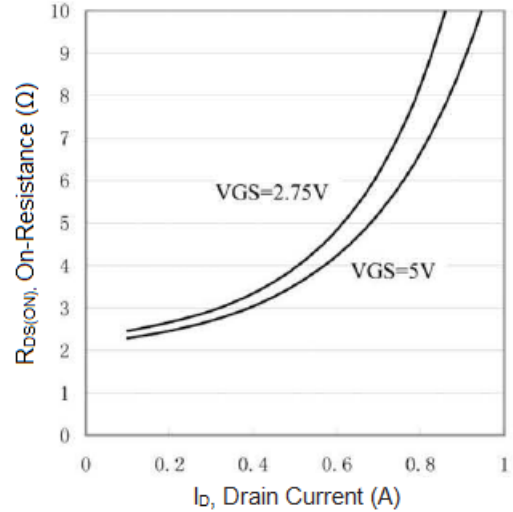


Figure 7. On-Resistance vs. Gate-to-Source Voltage

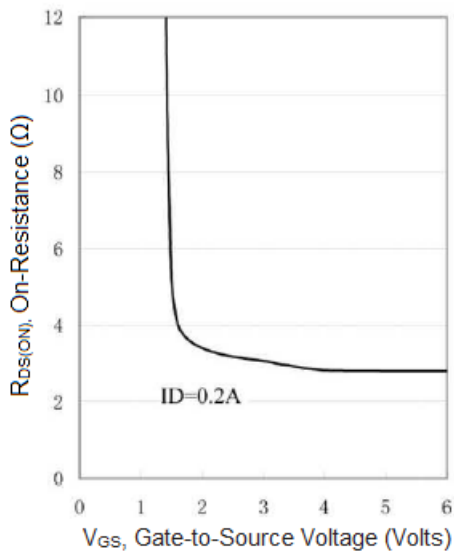
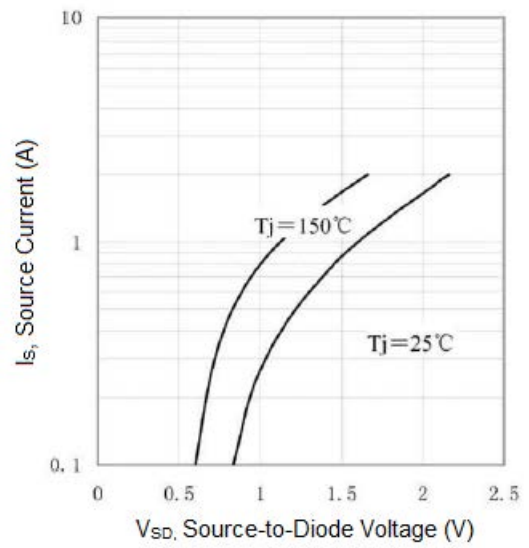


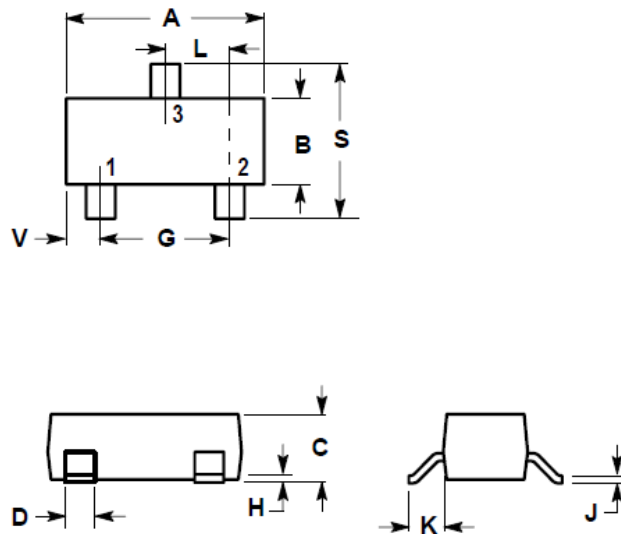
Figure 8. Source-Drain Diode Forward Voltage





## PACKAGE INFORMATION

Dimension in SOT-23S Package (Unit: mm)



DIM	MIN	MAX
A	2.80	3.04
B	1.20	1.40
C	0.89	1.13
D	0.30	0.50
G	1.78	2.04
H	0.01	0.10
J	0.08	0.18
K	0.45	0.60
L	0.89	1.02
S	2.10	2.50
V	0.42	0.60



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