



DESCRIPTION

$V_{DS} = -20V$

$V_{GS} = \pm 8V$

$I_D(A) = -4A$

$R_{DS(ON)} = 35m\Omega$ (Typ.) @-4V5

$R_{DS(ON)} = 45m\Omega$ (Typ.) @-2V5

$R_{DS(ON)} = 55m\Omega$ (Typ.) @-1V8

$R_{DS(ON)} = 70m\Omega$ (Typ.) @-1V5

The AM3415B is available in SOT-23S package.

ORDERING INFORMATION

Package Type	Part Number	
SOT-23S SPQ: 3,000pcs/Reel	E3S	AM3415BE3SR
		AM3415BE3SVR
Note	V: Halogen free Package R: Tape & Reel	
AiT provides all RoHS products		

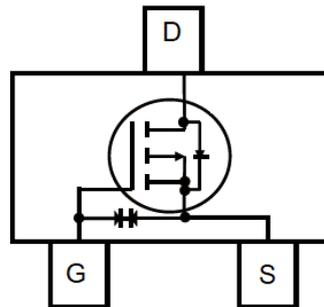
FEATURES

- ESD: 3 kv
- Available in SOT-23S package

APPLICATIONS

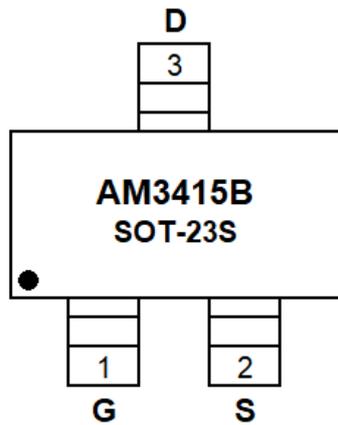
- Load Switch
- Portable Devices
- DCDC Conversion

P CHANNEL MOSFET





PIN DESCRIPTION



Top View

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



ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise noted

V _{DSS} , Drain-Source Voltage	-20V	
V _{GSS} , Gate-Source Voltage	±8V	
I _D , Drain Current ^{NOTE1}	Continuous	-4.2A
	Pulsed	-20A
P _D , Power Dissipation ^{NOTE1}	500mW ^{NOTE2}	
	850mW ^{NOTE3}	
T _J , T _{STG} , Operating and Storage Junction Temperature Range	-55°C ~150°C	

Stress beyond above listed "Absolute Maximum Ratings" may lead permanent damage to the device. These are stress ratings only and operations of the device at these or any other conditions beyond those indicated in the operational sections of the specifications are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: The value of P_D is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A=25°C. The current rating is based on the DC thermal resistance rating.

NOTE2: Minimum footprint

NOTE3: Maximum footprint.

ELECTRICAL CHARACTERISTICS

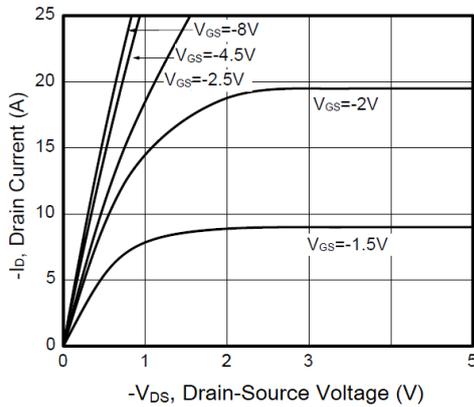
T_A = 25°C, unless otherwise noted, no self-heating.

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	-20	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0V	-	-	-1	μA
Gate-Body Leakage	I _{GSS}	V _{GS} =±8V, V _{DS} =0V	-	-	±10	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.3	-0.55	-1.0	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-4A	-	35	55	mΩ
		V _{GS} =-2.5V, I _D =-3A	-	45	65	
		V _{GS} =-1.8V, I _D =-2A	-	55	87	
		V _{GS} =-1.5V, I _D =-1A	-	70	-	
Forward Transconductance	G _{fs}	V _{DS} =-5V, I _D =-4A	-	16	-	S
Drain-Source Diode Forward Voltage	V _{SD}	I _S =-2A, V _{GS} =0V	-0.5	-	-1.2	V
Input Capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V, f=1.0MHz	-	418	-	pF
Output Capacitance	C _{oss}		-	136	-	
Reverse Transfer Capacitance	C _{rss}		-	56	-	
Total Gate Charge	Q _g	V _{DS} =-10V, I _D =-4A, V _{GS} =5V	-	9	-	nC
Gate-Source Charge	Q _{gd}		-	2.9	-	
Gate-Drain	Q _{gs}		-	3.6	-	
Turn-on Delay Time	t _{d(on)}	V _{DS} =-5V, V _{DS} =-10V, R _L =1.5Ω, R _{GEN} =3Ω	-	-	18	ns
Turn-off Delay Time	t _{d(off)}		-	-	70	

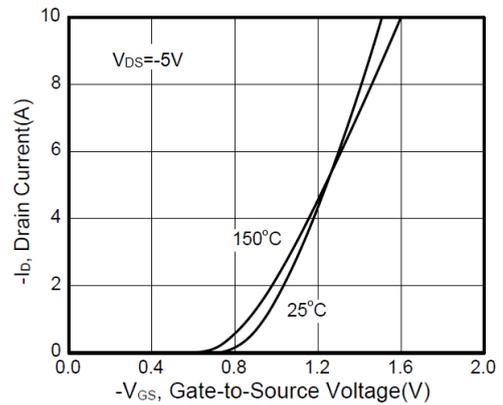


TYPICAL ELECTRICAL CHARACTERISTICS

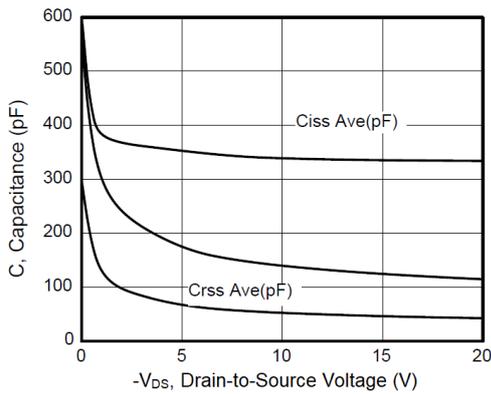
1. Output Characteristics



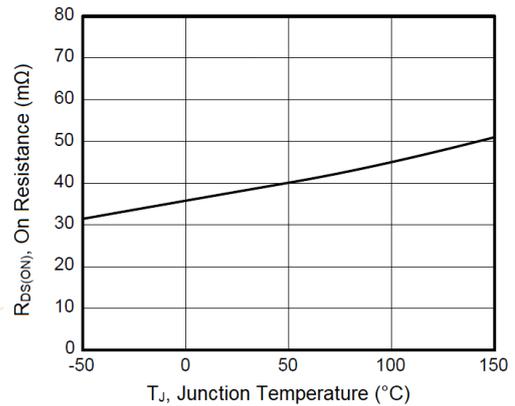
2. Transfer Characteristics



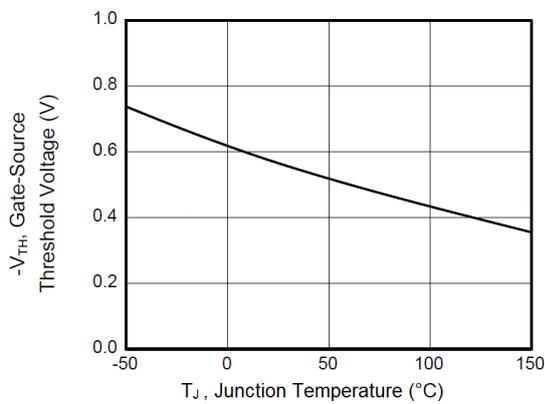
3. Capacitance



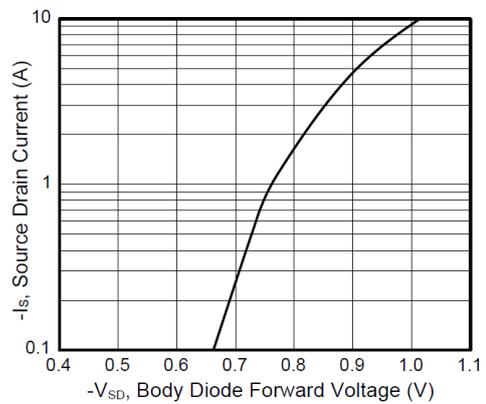
4. On Resistance vs. Temperature



5. Gate Threshold vs. Temperature



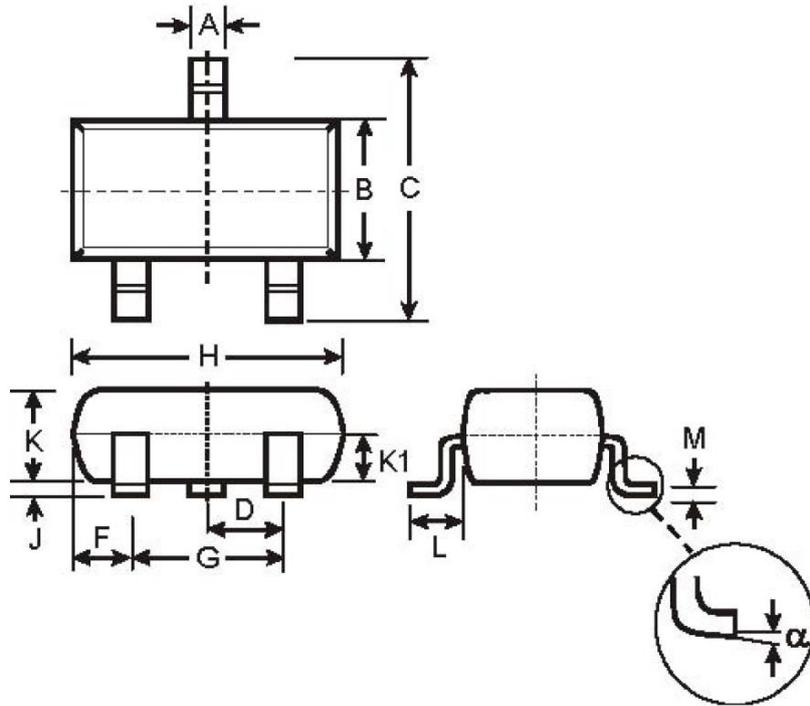
6. Diode Forward Characteristics





PACKAGE INFORMATION

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



Symbol	Min.	Max.
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
F	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
K1	0.400 TYP	
L	0.45	0.61
M	0.085	0.18
α	0°	8°



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