

8V Input , 300mA , Ultra Low Current Consumption , CMOS LDO

Description

The AF6216 series of low-dropout linear regulators are ultralow quiescent current LDOs with excellent liner and ultra-fast load transient performance. The AF6216 series is capable of delivering 300mA of output current with a maximum operating voltage of 8V.

The series are very suitable for the battery-powered equipment such as RF applications and other systems requiring a quiet voltage source.

Applications

- Portable consumer equipment
- Wireless handsets, Smart Phones
- Bluetooth, Digital cameras and Digital audio
- PDAs and other handheld products

Device Information

AF 6216 – XX C/D/M

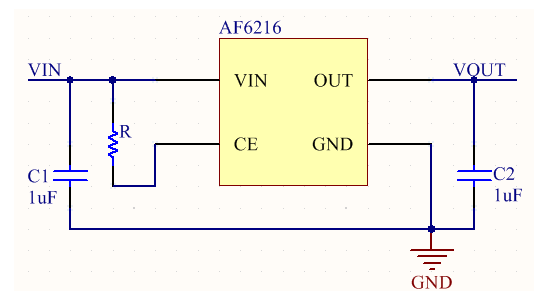
- ① ② ③ ④

①	Standard
②	Product Name
③	Output Voltage e.g. 18 = 1.8V
④	C: SOT23-5L Package
	D: DFN1X1-4 Package
	M: SOT23-3L Package

Features

- Input Voltage Range: 1.8V~8V
- Output Voltage Range: 1.2V~3.3V
- Output Current: 300mA
- Quiescent Current: 0.8uA
- Dropout Voltage : 100mV@100mA
- Fixed Voltage Accuracy: $\pm 1\%$ (Typ.)
- PSRR: 50dB at 1kHz
- Excellent Line and Load Transient Response
- Short-Circuit Protection

Typical Application



Pin Configuration

Symbol	Package Pin		
	SOT23-5L	DFN10-10-4L	SOT23-3L
VIN	1	4	3
GND	2	2	1
CE	3	3	
NC	4		
OUT	5	1	2

SOT23-5L DFN1010-4L SOT23-3L



AF6216 Series

Absolute Maximum Ratings⁽¹⁾

(Unless otherwise specified, all voltage are with respect to GND, TA=25°C)

PARAMETER	SYMBOL	RATINGS	UNITS
Input Voltage	V _{IN}	-0.3~9	V
Output Voltage	V _{OUT}	-0.3~V _{IN}	V
Output Current	I _{OUT}	500	mA
Power Dissipation	SOT23-3	0.3	W
	SOT23-5	0.4	
	DFN1X1-4	0.4	
Operating Junction Temperature Range	T _J	-40~125	°C
Storage Temperature	T _{STG}	-40~125	°C
Lead Temperature(Soldering, 10 sec)	T _L	260	°C

(1). Stresses beyond those listed under absolute maximum ratings 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 under recommended operating conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

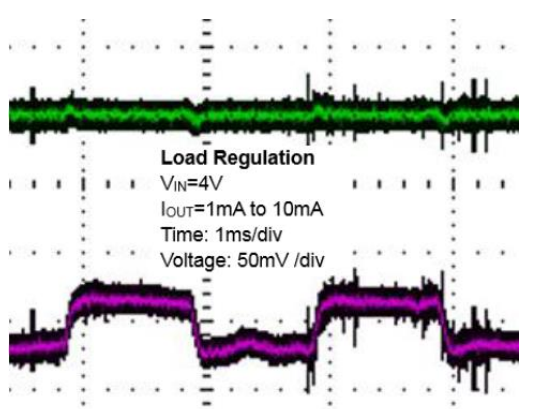
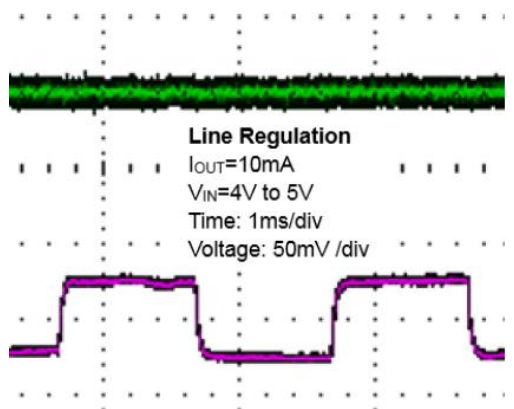
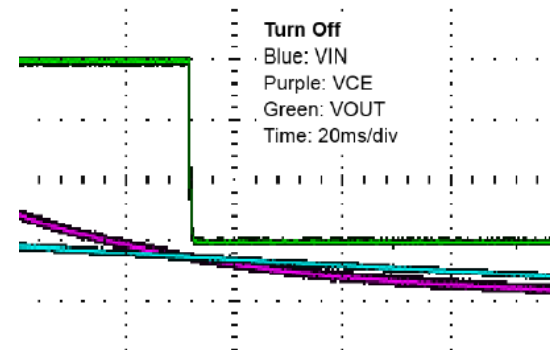
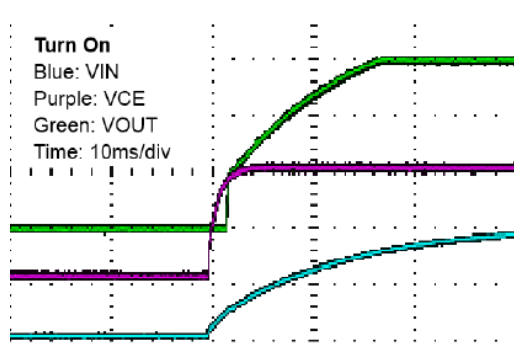
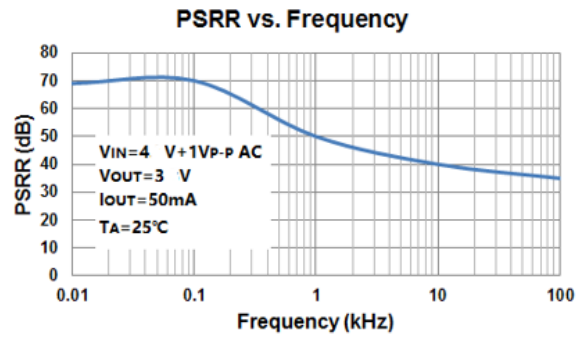
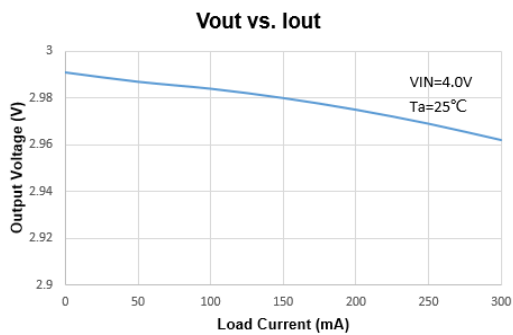
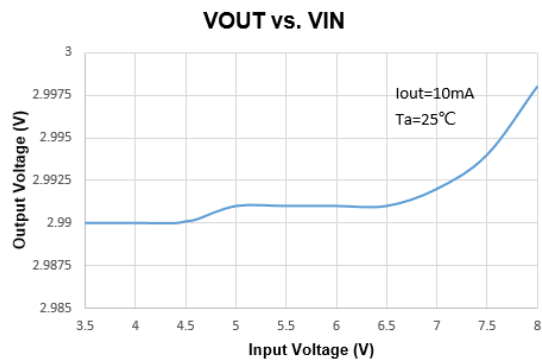
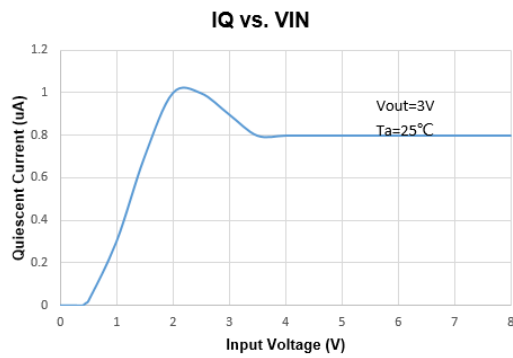
Electronics Characteristics

(Unless otherwise specified, V_{IN}=V_{OUT}+1V, C_{IN}=C_{OUT}=1uF, TA=25°C)

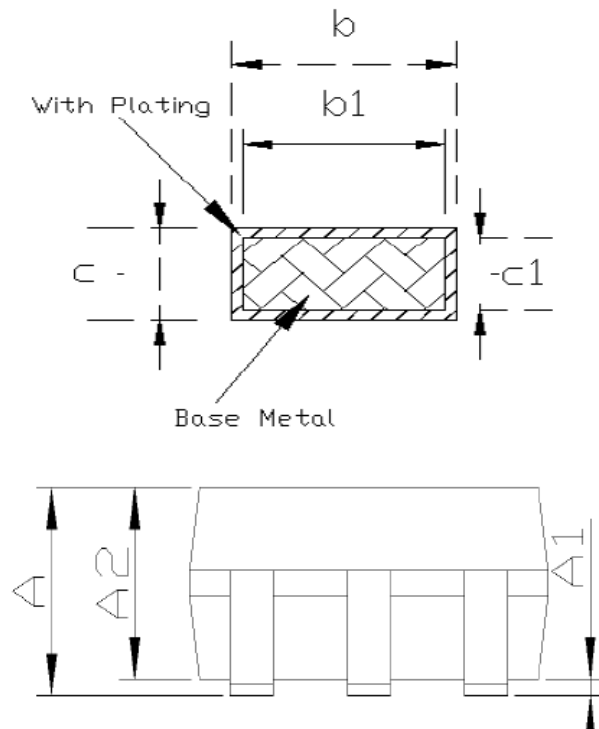
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V _{IN}		1.8		8	V
Output Voltage	V _{OUT}		0.98 V _{OUT}	V _{OUT}	1.02 V _{OUT}	V
Dropout Voltage	V _{DIF}	I _{OUT} =100mA		100		mV
Quiescent Current	I _Q	I _{OUT} =0		0.8		uA
Shutdown current	I _{CEL}	V _{CE} =V _{SS}			0.1	uA
Line Regulation	ΔV _{LINE}	I _{OUT} =10mA V _{OUT} +1V≤V _{IN} ≤8V		0.05	0.3	%/V
Load Regulation	ΔV _{LOAD}	V _{IN} =V _{OUT} +1V 1mA≤I _{OUT} ≤100mA		10		mV
Temperature Coefficient	TC	I _{OUT} =10mA -40°C<T _A <125°C		100		ppm
Current Limit	I _{LIM}	V _{OUT} =0.5xV _{OUT} V _{IN} = 5V	550	700	850	mA
Short Current	I _{SHORT}	V _{OUT} =V _{SS}		20		mA
Power Supply Rejection Ratio	PSRR	I _{OUT} =50 mA	1kHz		50	dB
			10kHz		40	

Typical Characteristics

(Unless otherwise specified, $V_{IN}=V_{OUT}+1V$, $C_{IN}=C_{OUT}=1\mu F$, $T_A=25^\circ C$)

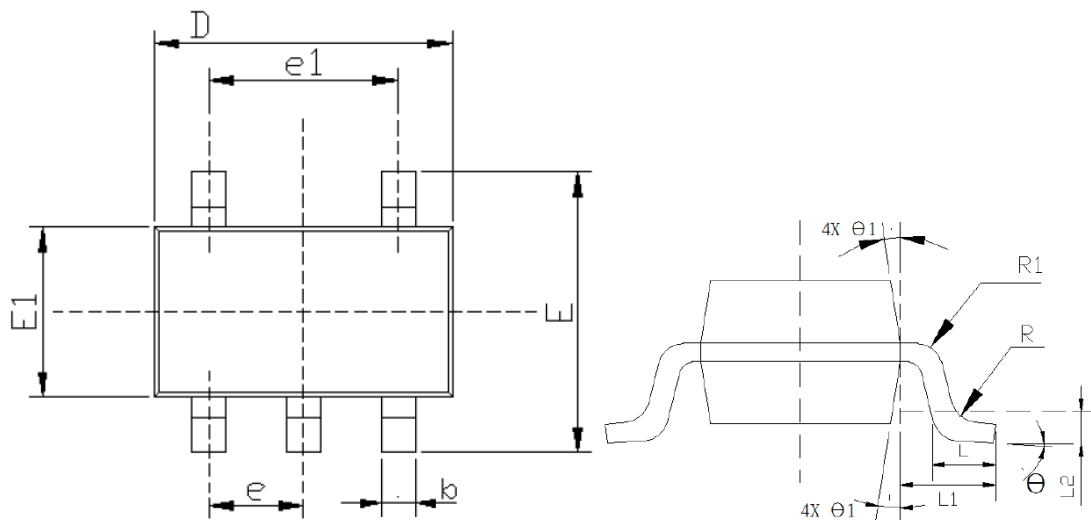


Package Information

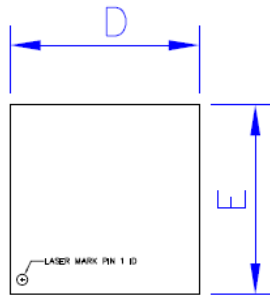


Common Dimensions			
(Units of Measure=Millimeter)			
SYMBOL	MINIMUM	NOMINAL	MAXIMUM
A	-	-	1.35
A1	0	-	0.15
A2	1.00	1.10	1.20
b	0.35	-	0.45
b1	0.32	-	0.38
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.82	2.92	3.02
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.6 REF		
L2	0.25 REF		
R	0.10	-	-
R1	0.10	-	0.25
θ	0°	4°	8°
θ_1	5°	10°	15°

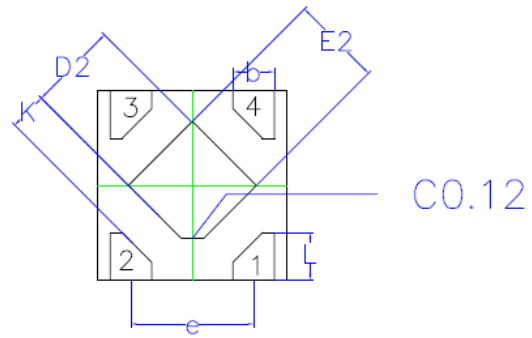
SOT23-5L



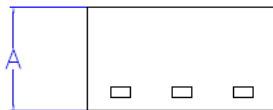
DFN1010-4L



TOP VIEW

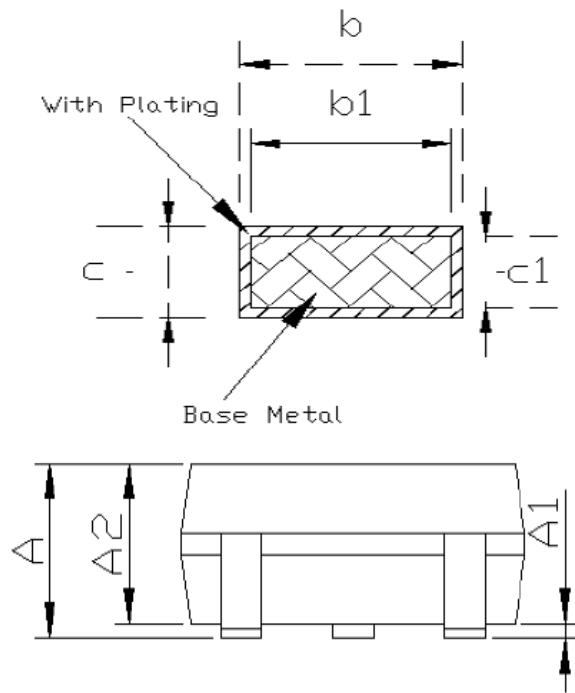


BOTTOM VIEW



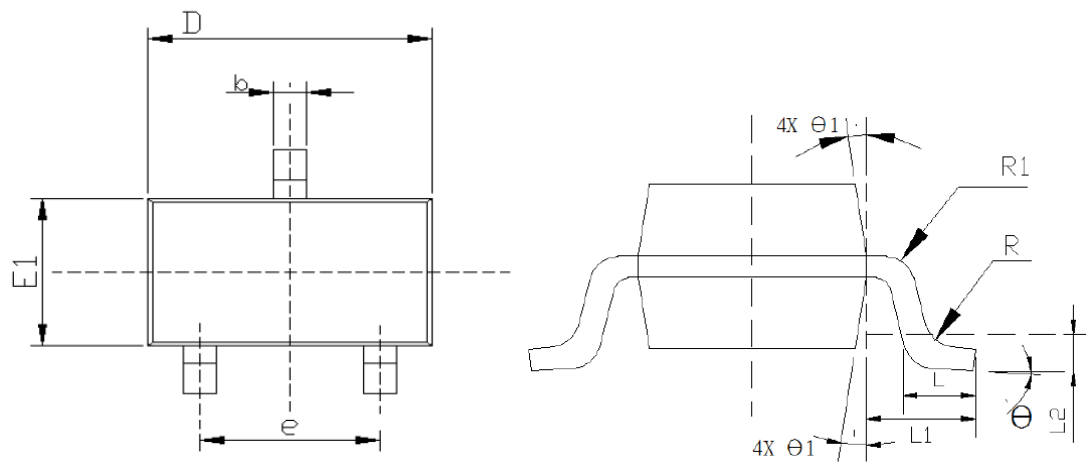
SIDE VIEW

COMMON DIMENSION (MM)			
PKG	DFN1010		
REF.	MIN.	NOM.	MAX
A	0.34	0.37	0.40
b	0.17	0.22	0.27
D	0.95	1.00	1.05
E	0.95	1.00	1.05
D2	0.43	0.48	0.53
E2	0.43	0.48	0.53
L	0.20	0.25	0.30
e	0.60	0.65	0.70
K	0.15	—	—



Common Dimensions (Units of Measure=Millimeter)			
SYMBOL	MINIMUM	NOMINAL	MAXIMUM
A	-	-	1.35
A1	0	-	0.15
A2	1.00	1.10	1.20
b	0.35	-	0.45
b1	0.32	-	0.38
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.82	2.92	3.02
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.6 REF		
L2	0.25 REF		
R	0.10	-	-
R1	0.10	-	0.25
θ	0°	4°	8°
θ_1	5°	10°	15°

SOT23-3L





Order Information

Voltage	DFN1010-4L	Marking	Shipping	SOT23-5L	Marking	Shipping
1.2			Tape and Reel, 10K			Tape and Reel, 3K
1.5				√	1615	
1.8	√	1V8		√	1618	
2.5	√	2V5				
2.8				√	1628	
3.0				√	1630	
3.3	√	3V3		√	1633	

Voltage				SOT23-3L	Marking	Shipping
1.2						Tape and Reel, 3K
1.5						
1.8						
2.8						
3.3				√	1633	

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