



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

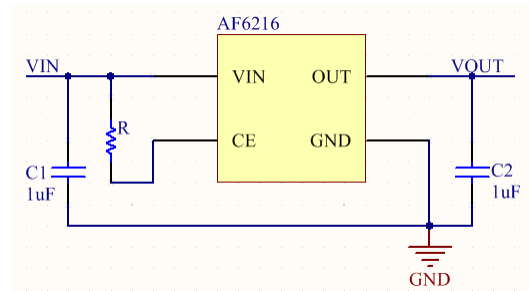
- ① ② ③ ④

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: ±1%(Typ.)
- PSRR: 50dB at 1kHz
- Excellent Line and Load Transient Response
- Short-Circuit Protection

Typical Application



Pin Configuration

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

Absolute Maximum Ratings⁽¹⁾



AF6216 Series

(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	P_D	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, $V_{IN}=V_{OUT}+1V$, $C_{IN}=C_{OUT}=1\mu F$, 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}	$I_{OUT} = 10mA$ $V_{OUT}+1V \leq V_{IN} \leq 8V$		0.05	0.3	%/V
Load Regulation	ΔV_{LOAD}	$V_{IN}=V_{OUT}+1V$ $1mA \leq I_{OUT} \leq 100mA$		10		mV
Temperature Coefficient	TC	$I_{OUT}=10mA$ $-40^\circ C < T_A < 125^\circ C$		100		ppm
Current Limit	I_{LIM}	$V_{OUT}=0.5 \times V_{OUT}$ $V_{IN} = 5V$	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		

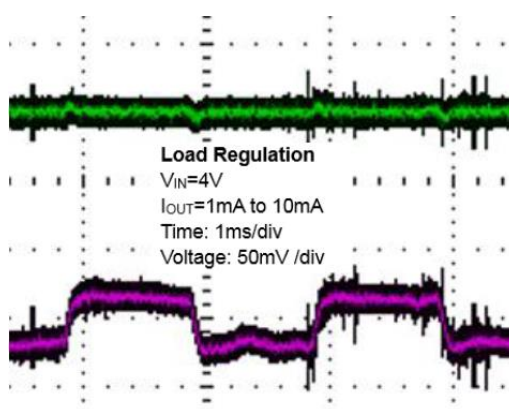
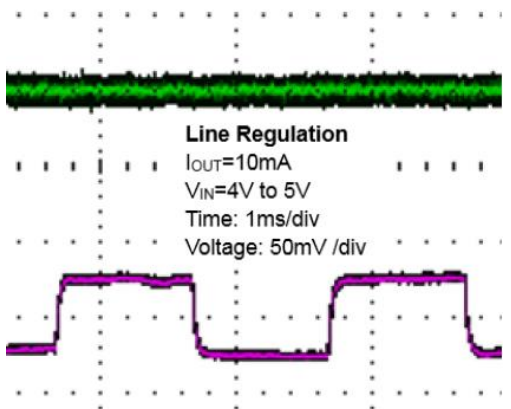
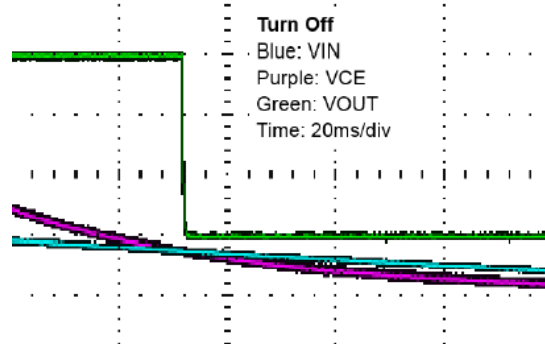
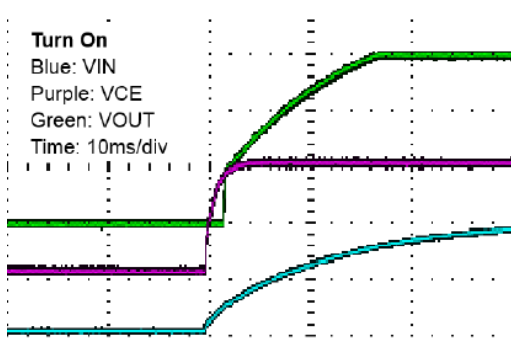
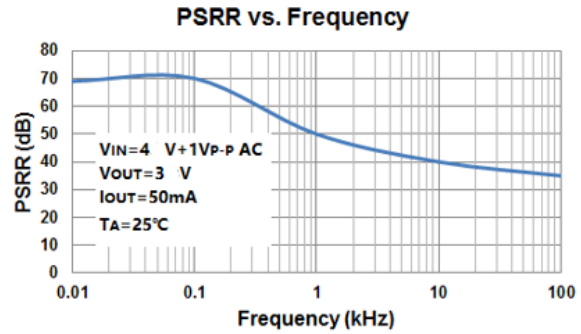
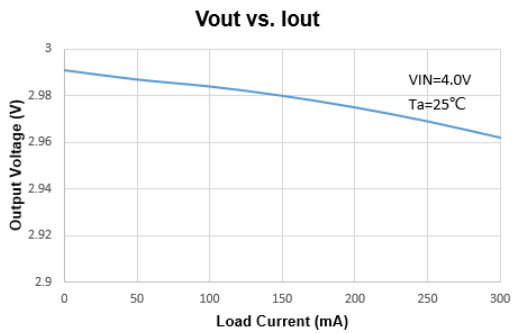
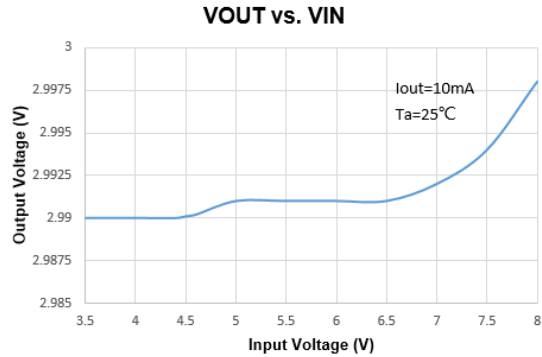
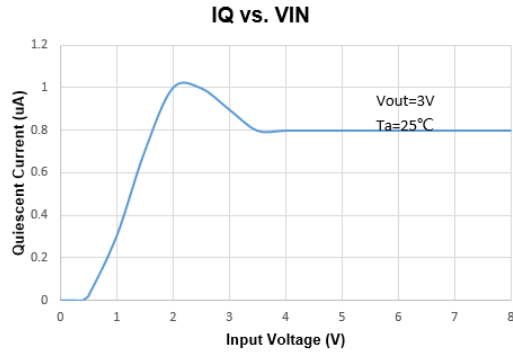


AF6216 Series

Discharge Resistance	$R_{DISCHRG}$	VIN=5V VCE=0V	200	Ω
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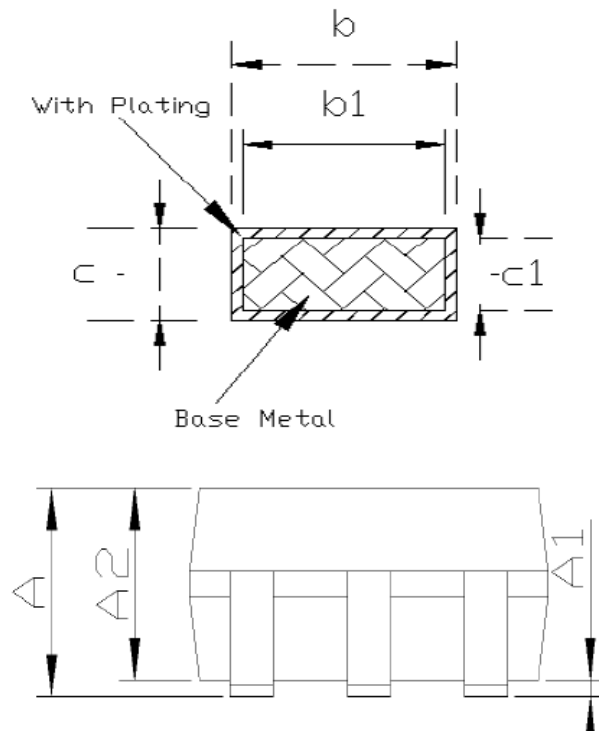
Typical Characteristics

(Unless otherwise specified, VIN=VOUT+1V, CIN=COUT=1uF, TA=25°C)



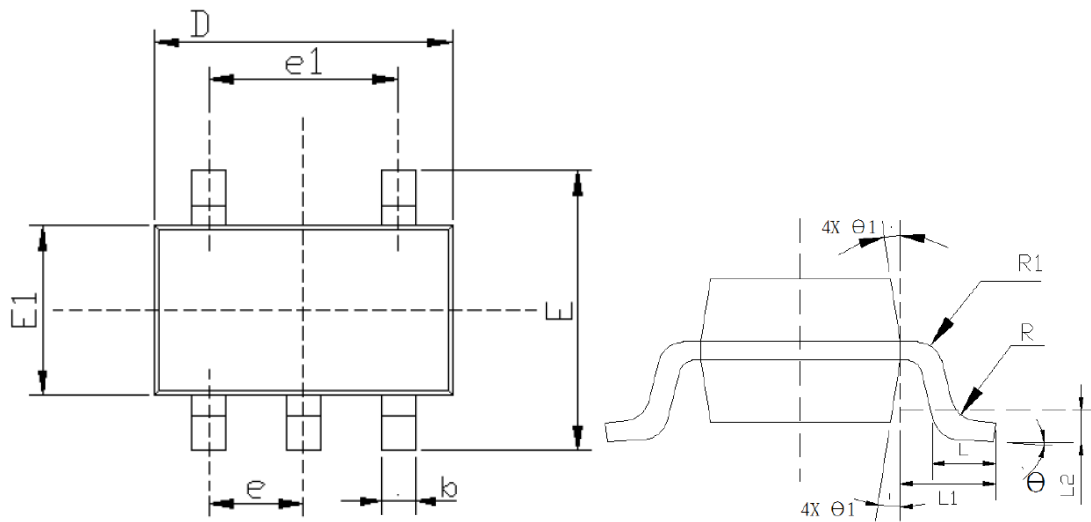


Package Information



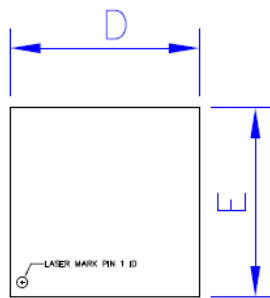
Common Dimensions (Units of Measure=Millimeter)			
SYMBOL	MINIMUM	NOMINAL	MAXIMUM
A	-	-	1.35
A1	0	-	0.15
A2	1.00	1.10	1.20
b	0.35	-	0.45
b1	0.32	-	0.38
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.82	2.92	3.02
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.6 REF		
L2	0.25 REF		
R	0.10	-	-
R1	0.10	-	0.25
θ	0°	4°	8°
$\theta 1$	5°	10°	15°

SOT23-5L

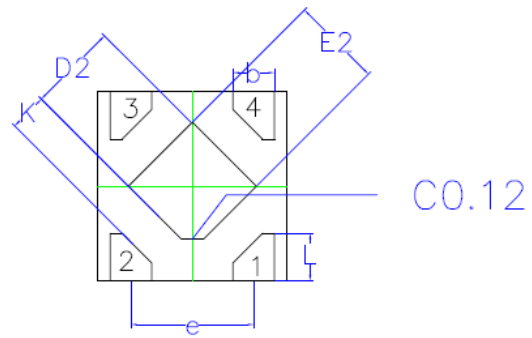




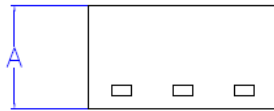
DFN1010-4L



TOP VIEW

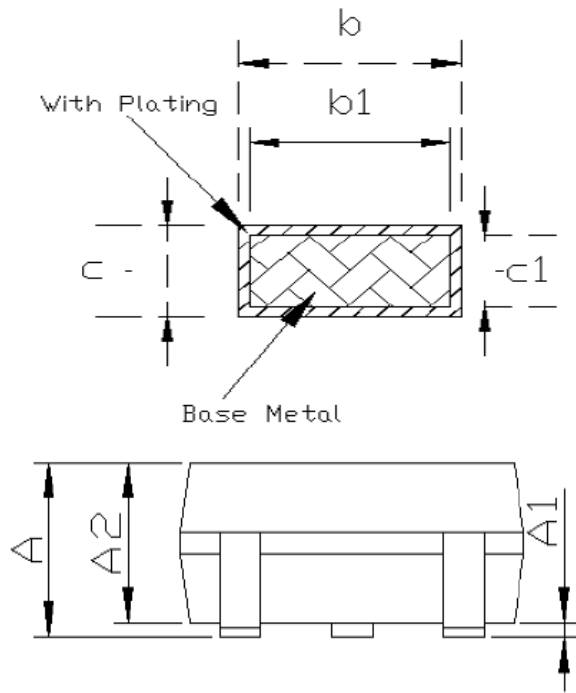


BOTTOM VIEW



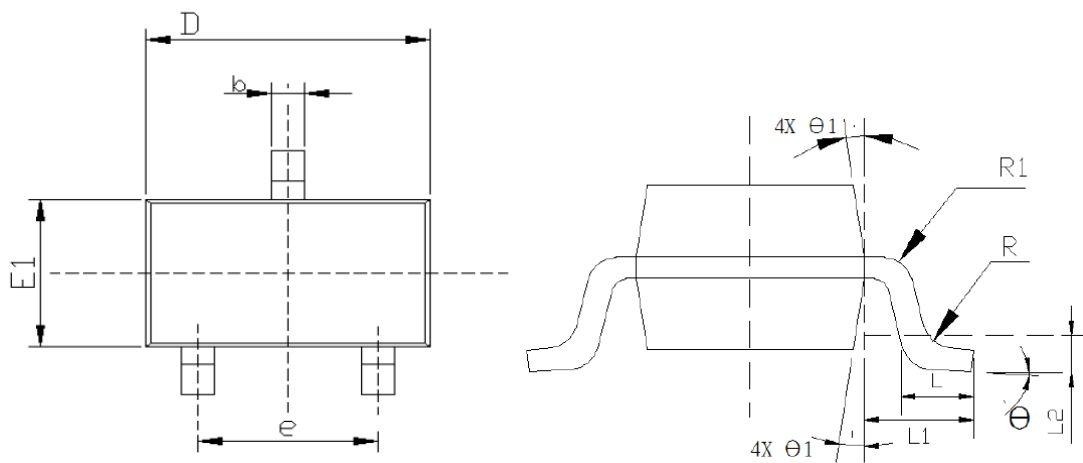
SIDE VIEW

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°
$\theta 1$	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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