

6V Input , 500mA , Good Transient Response Low Voltage , CMOS LDO

Description

The AF6212 series are CMOS-based LDO regulators featuring 500mA output current. Internally, the IC consists of a voltage reference unit, an error amplifier and a current limit circuit. AF6212 also features an excellent line transient response, super high ripple rejection and low noise.

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

Applications

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

Device Information

AF 6212 – XX C/D

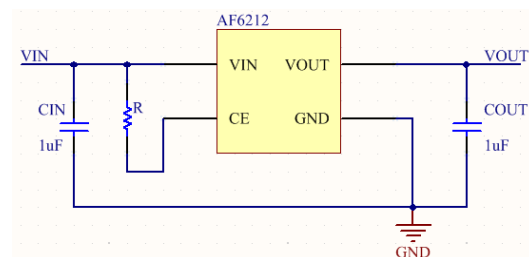
① ② ③ ④

①	Standard
②	Product Name
③	Output Voltage e.g. 25 = 2.5V
④	C: SOT23-5L Package
	D: DFN1X1-4 Package

Features

- Input Voltage Range: 2V~6V
- Output Voltage Range: 1V~3.3V
- Output Current: 500mA
- Quiescent Current: 50uA
- Dropout Voltage : 150mV@150mA
- Voltage Accuracy: $\pm 2\%$ (Typ.)
- PSRR: 75dB at 1kHz
- Excellent Line and Load Transient Response
- Short-Circuit Protection
- Built-in Current Limiter
- Low Output Noise

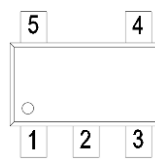
Typical Application



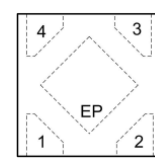
Pin Configuration

Symbol	Package Pin	
	SOT23-5L	DFN1010-4L
VIN	1	4
GND	2	2
CE	3	3
NC	4	
OUT	5	1

EP can connect GND or Float



SOT23-5L



DFN1010-4L



AF6212 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}	-0.3~7	V	
Output Voltage	V _{OUT}	-0.3~V _{IN}	V	
Output Current	I _{OUT}	600	mA	
Power Dissipation	SOT23-5	P _D	0.4	W
	DFN1X1-4			
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.

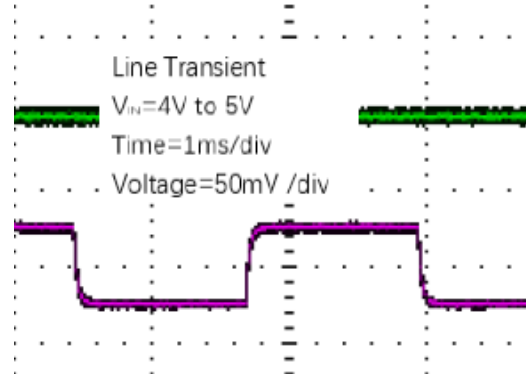
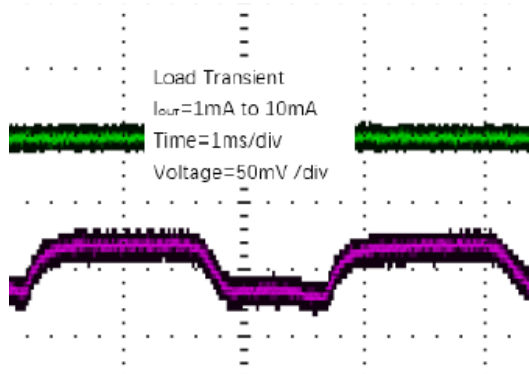
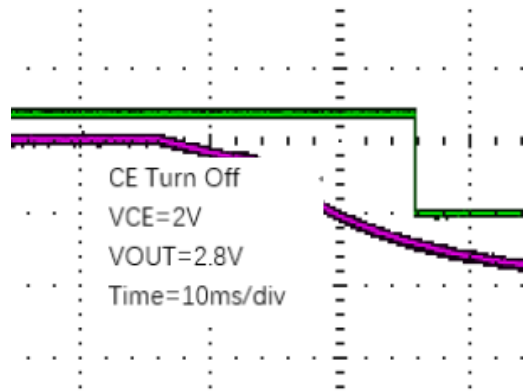
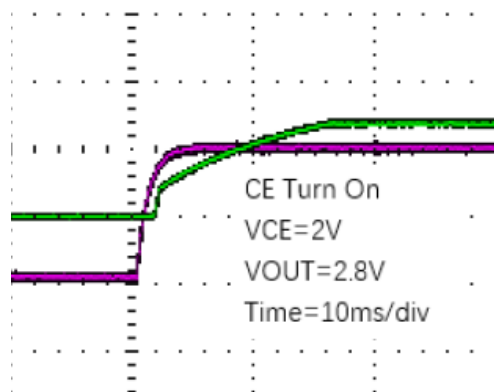
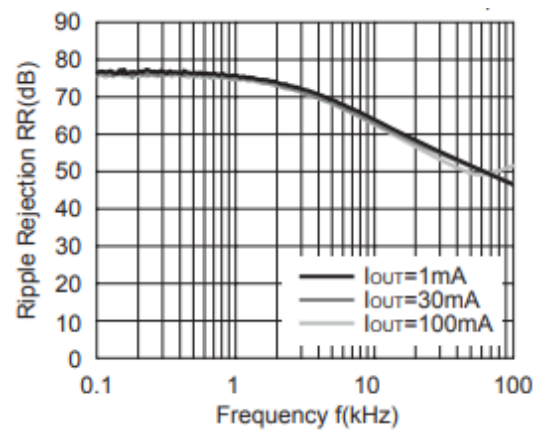
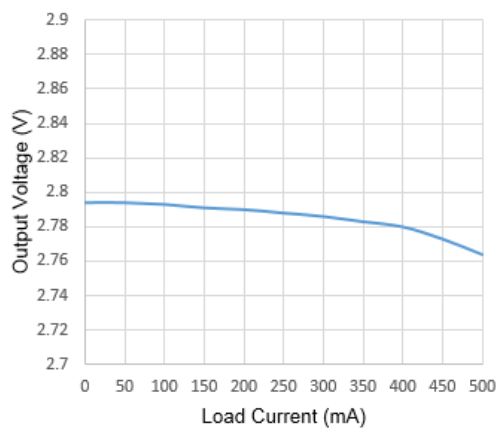
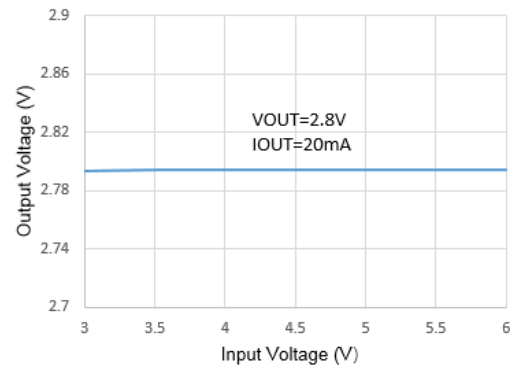
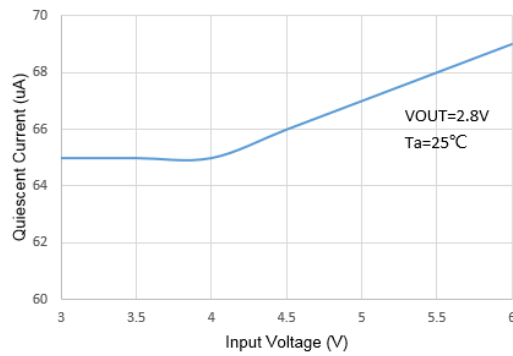
Electronics Characteristics

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

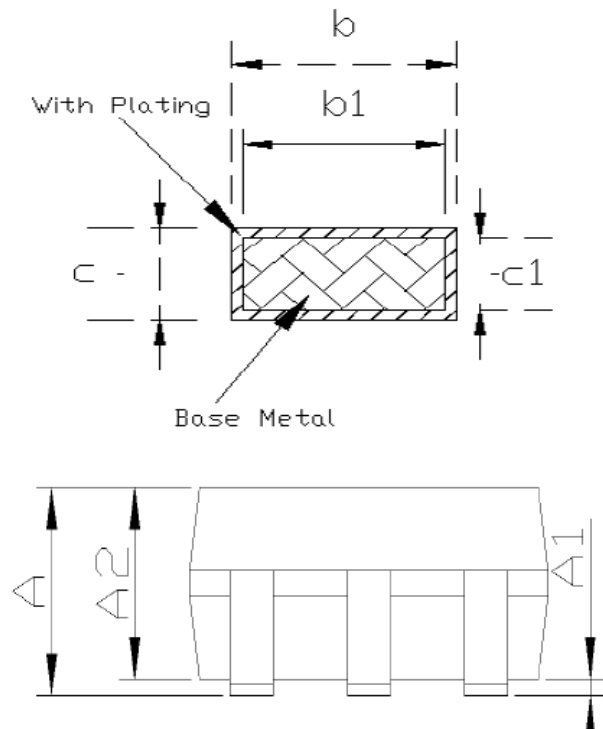
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V _{IN}		2		6	V
Output Voltage	V _{OUT}		0.98 V _{OUT}	V _{OUT}	1.02 V _{OUT}	V
Dropout Voltage	V _{DIF}	I _{OUT} =150mA V _{OUT} ≥2.8V		150		mV
Quiescent Current	I _Q	I _{OUT} =0		50	100	uA
Shutdown current	I _{CEL}	V _{CE} =V _{SS}			0.1	uA
Line Regulation	ΔV _{LINE}	I _{OUT} =10mA V _{OUT} +1V≤V _{IN} ≤6V		0.01	0.2	%/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
Short Current	I _{SHORT}	V _{OUT} =V _{SS}		100		mA
Power Supply Rejection Ratio	PSRR	I _{OUT} =50 mA	1kHz		75	dB
			10kHz		70	
CE "High"	V _{CE} "H"		1.5		V _{IN}	V
CE "Low"	V _{CE} "L"				0.3	V
Output Noise		10Hz~100kHz		40		uV _{RMS}

Typical Characteristics

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

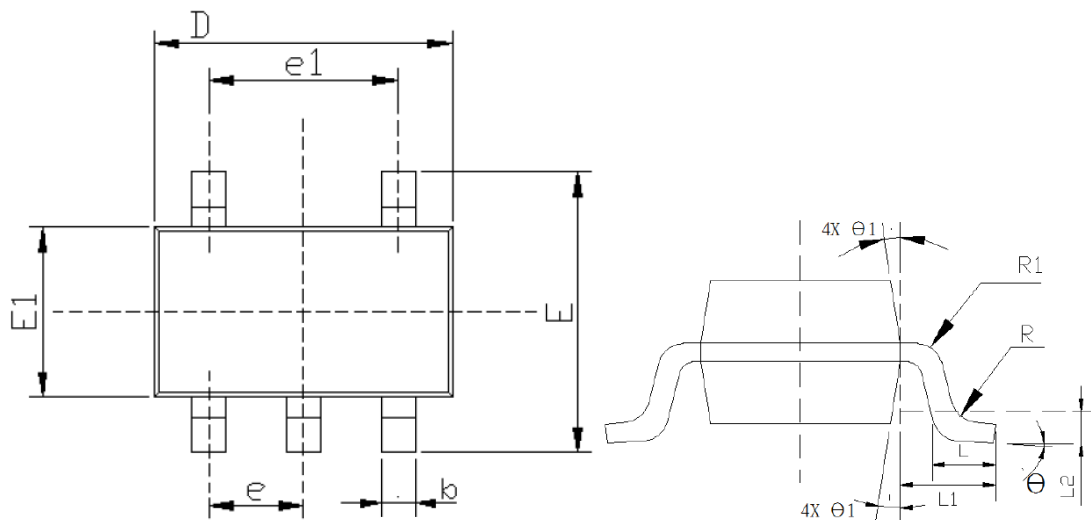


Package Information

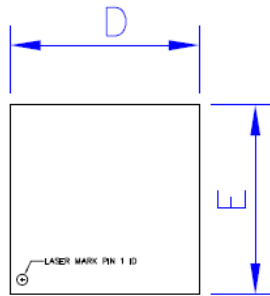


Common Dimensions			
(Units of Measure=Millimeter)			
SYMBOL	MINIMUM	NOMINAL	MAXIMUM
A	-	-	1.35
A1	0	-	0.15
A2	1.00	1.10	1.20
b	0.35	-	0.45
b1	0.32	-	0.38
c	0.14	-	0.20
c1	0.14	0.15	0.16
D	2.82	2.92	3.02
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	0.90	0.95	1.00
e1	1.80	1.90	2.00
L	0.35	0.45	0.60
L1	0.6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

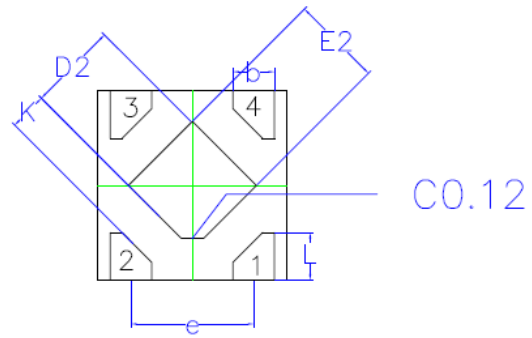
SOT23-5L



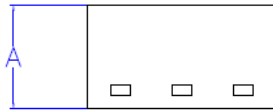
DFN1010-4L



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	—	—

**Order Information**

Voltage	DFN1010-4L	Marking	Shipping	SOT23-5L	Marking	Shipping
1.0			Tape and Reel, 10K	√	LVAX	Tape and Reel, 3K
1.05				√	LVCX	
1.1	√	1V1				
1.2	√	1V2.		√	LVBX	
1.3	√	1V3.				
1.5	√	1V5.		√	LVEX	
1.8	√	1V8		√	LVKX:	
2.5	√	2V5.		√	LVFX.	
2.8	√	2V8		√	LVXX	
3.0	√	3V0.		√	LVZX	
3.3	√	3V3.		√	LV2X:	

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