

15V Input , 350mA , Low Current Consumption , CMOS LDO
Description

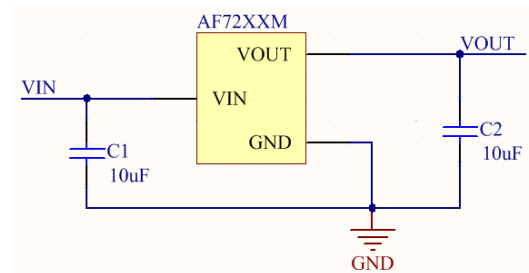
The AF72XXM series is a set of three-terminal low power high voltage regulators implemented in CMOS technology. They allow input voltages as high as 15V. They are available with several fixed output voltages ranging from 2.8V to 5V. CMOS technology ensures low voltage drop and low quiescent current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain variable voltages and currents.

Features

- Input Voltage Range: up to 15V
- Output Voltage Range: 2.8V~5V
- Output Current: 350mA
- Quiescent Current: 2uA
- Dropout Voltage : 170mV@100mA
- Fixed Voltage Accuracy: $\pm 2\%$ (Typ.)
- PSRR: 40dB at 1kHz
- Low Output Noise
- Excellent Line and Load Transient Response
- Short-Circuit Protection, Built-in Current Limiter

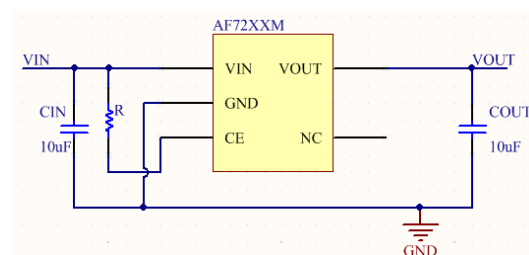
Applications

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

Typical Application

Device Information
AF 72 XX M – P/C/M R/G

① ② ③ ④ ⑤ ⑥

①	Standard
②	Product Series
③	Output Voltage e.g. 28 = 2.8V
④	Medium Voltage
④	M: SOT-23-3 Package
	P: SOT-89-3 Package
	C: SOT-25 Package
⑥	R: RoHS / Pb Free
	G: Halogen Free



Pin Configuration

Symbol	Package Pin		
	SOT23	SOT89-3	SOT23-5
GND	1	1	2
OUT	2	3	5
VIN	3	2	1
CE			3
NC			4

SOT23	SOT89-3	SOT23-5L

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}	-0.3~18	V
Output Voltage	V_{OUT}	-0.3~ V_{IN}	V
Output Current	I_{OUT}	500	mA
Power Dissipation	P_D	SOT23	0.25 W
		SOT23-5	0.4 W
		SOT89-3	0.5 W
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.



AF72XXM Series

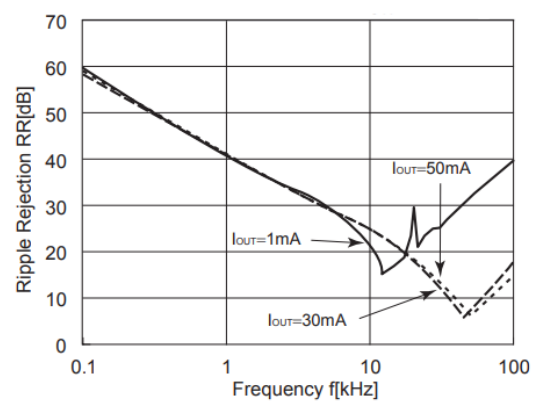
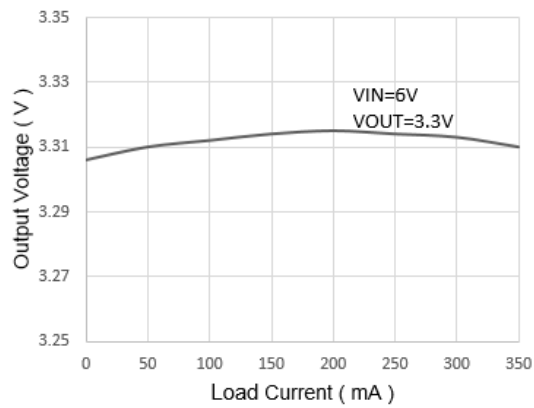
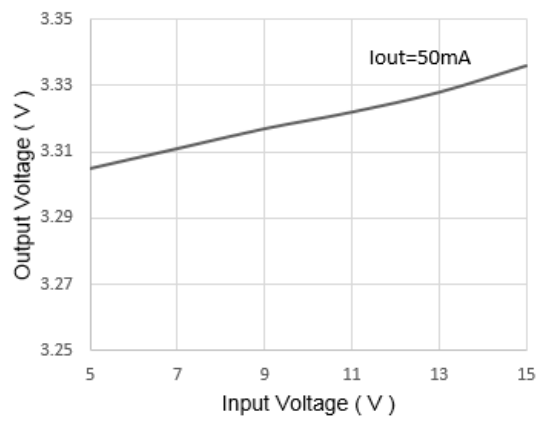
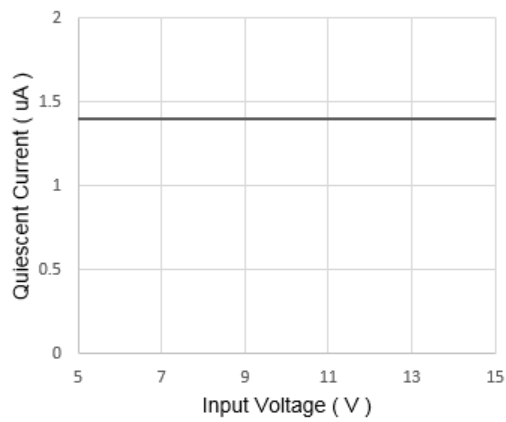
✚ Electronics Characteristics

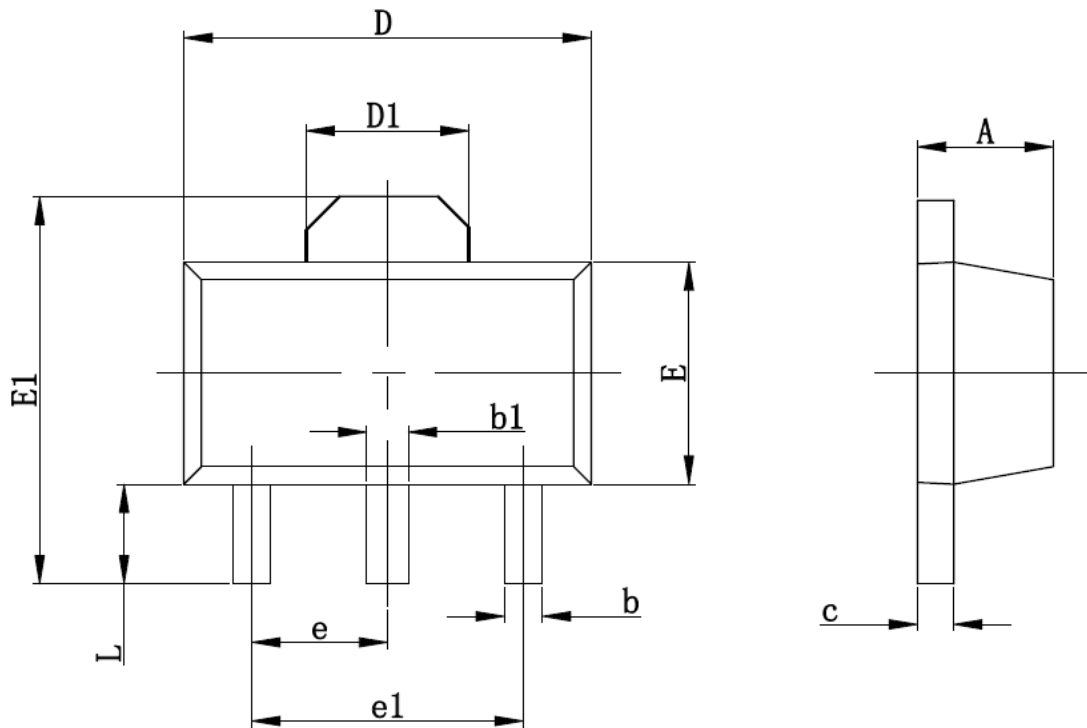
(Unless otherwise specified, $V_{IN}=V_{OUT}+1V$, $C_{IN}=C_{OUT}=1\mu F$, $T_A=25^\circ C$)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	V_{IN}				15	V
Output Voltage	V_{OUT}		0.98 V_{OUT}	V_{OUT}	1.02 V_{OUT}	V
Dropout Voltage	V_{DIF}	$I_{OUT}=100mA$		170		mV
Quiescent Current	I_Q	$I_{OUT}=0$		1	2	μA
Line Regulation	ΔV_{LINE}	$I_{OUT}=100mA$ $3.5V \leq V_{IN} \leq 15V$		0.05	0.2	%/V
Load Regulation	ΔV_{LOAD}	$V_{IN}=V_{OUT}+1V$ $1mA \leq I_{OUT} \leq 100mA$		12	30	mV
Temperature Coefficient	TC	$I_{OUT}=30mA$ $0^\circ C < T_A < 85^\circ C$		± 100		ppm
Current Limit	I_{LIM}	$V_{OUT}=0.5 \times V_{OUT}$ $V_{IN}=5V$		650		mA
Power Supply Rejection Ratio	PSRR	$I_{OUT}=1mA$ 1kHz		40		dB

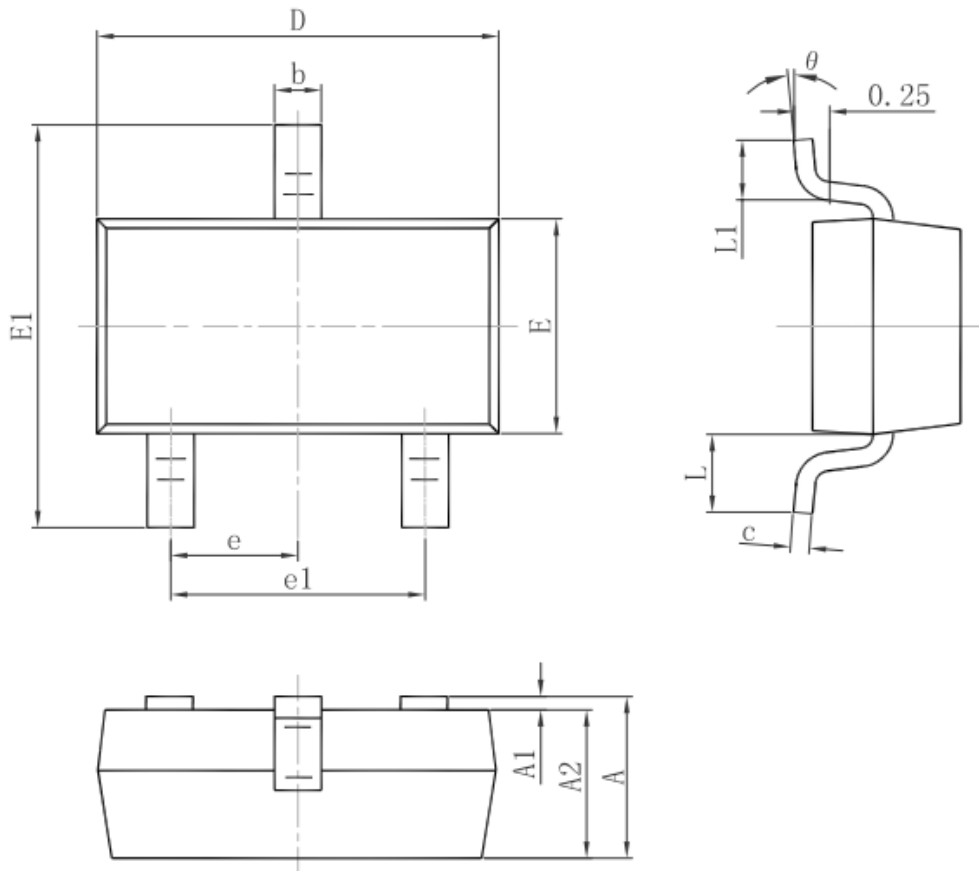
Typical Characteristics

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

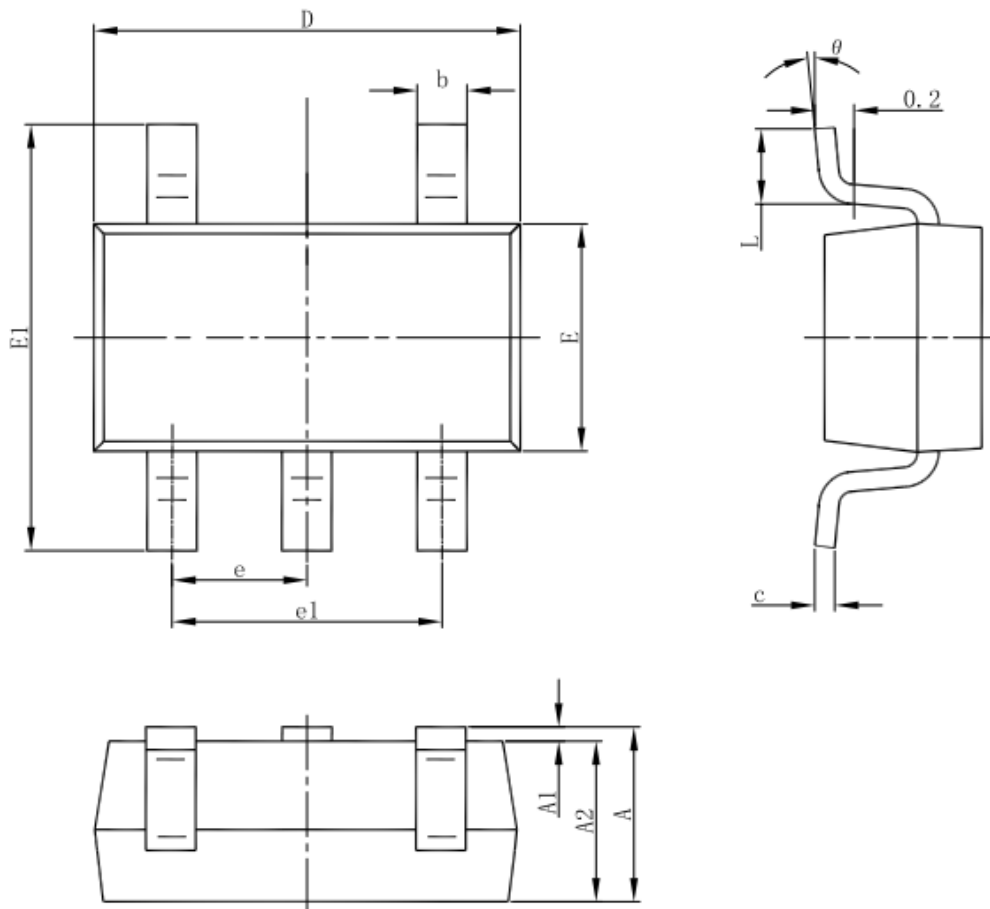


Package Information

SOT89-3

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.350	0.520	0.013	0.197
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.350	2.550	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060TYP	
e1	3.000 TYP		0.118TYP	
L	0.900	1.100	0.035	0.047


SOT23

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°


SOT23-5

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°



Order Information

Voltage	SOT23-5	Marking	SOT23	Marking	SOT89-3	Marking
2.8	√	SARZ	√	SARY	√	EDXX
3.0	√	SAUZ	√	SAUY	√	EFXX
3.3	√	SAXZ	√	SAXY	√	EIXX
3.6	√	SBAZ	√	SBAY	√	ELXX
4.0	√	SBEZ	√	SBEY	√	EPXX
4.5	√	SBJZ	√	SBJY	√	EUXX
5.0	√	SBOZ	√	SBOY	√	EZXX

Package	Packing	Shipping
SOT23-5	Tape and Reel	3K/Reel
SOT23		3K/Reel
SOT89-3		1K/Reel

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