7V Input , 300mA , CMOS LDO

Description

The AF6217 series are a group of voltage regulators manufactured by CMOS technologies with high ripple rejection, ultra-low noise, low power consumption and low dropout voltage.

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

- Wireless Communication tools
- Laptop, Palmtops and PDAs
- Portable AV systems
- Radio control systems
- Battery-Powered Equipment

Device Information

AF 6217 – XX C/D

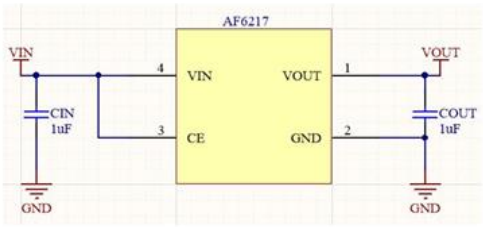
① ② ③ ④

①	Standard
②	Product Name
③	Output Voltage e.g. 28 = 2.8V
④	C: SOT23-5L Package
	D: DFN1010-4L Package

Features

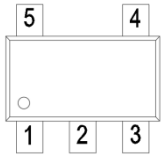
- Input Voltage Range: 1.8V~7V
- Output Voltage Range: 0.8V~3.3V
- Output Current: 300mA
- Quiescent Current: 50uA
- Dropout Voltage: 50mV@100mA
- Voltage Accuracy: ±2%(Typ.)
- High PSRR: 80dB at 1kHz
- Excellent Line and Load Transient Response
- Short-Circuit Protection
- Built-in Current Limiter
- Over-Temperature Protection
- Inrush Current : 150mA

Typical Application

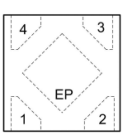


Pin Configuration

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



SOT23-5L



DFN1010-4L

Absolute Maximum Ratings (1)

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

PARAMETER		SYMBOL	RATINGS	UNITS
Input Voltage(3)		V_{IN}	-0.3~8	V
CE Pin Voltage(3)		V_{CE}	-0.3~V_{IN}	V
Output Voltage(3)		V_{OUT}	-0.3~V_{IN}	V
Output Current		I_{OUT}	400	mA
Power Dissipation	SOT23-5	P_D	0.4	W
	DFN1X1-4L			
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
ESD rating(2)		Human Body Model-(HBM)	2	kV
		Machine Model-(MM)	200	V

(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 my affect device reliability.

(2). ESD testing is performed according to the respective JESD22 JEDEC standard. The human body model is a 100 pF capacitor discharged through a 1.5kΩ resistor into each pin. The machine model is a 200pF capacitor discharged directly into each pin. (3). All voltages are with respect to network ground terminal.

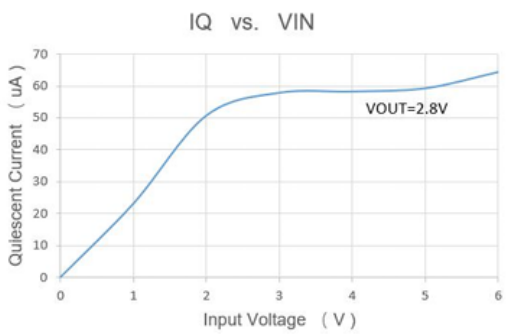
Electronics Characteristics

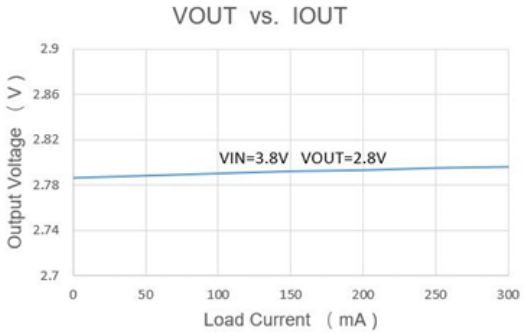
(Unless otherwise specified, V_{IN}=V_{CE}=V_{OUT}+1V, C_{IN}=C_{OUT}=1uF, TA=25°C)

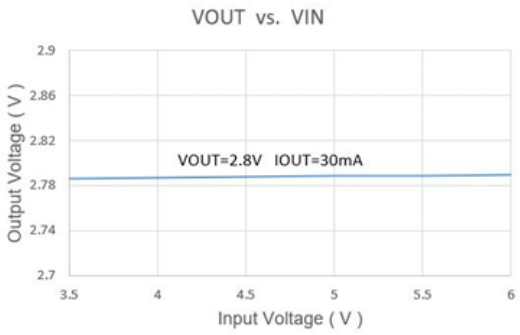
PARAMETER	SYMBOL	CONDITIONS		MIN	TYP	MAX	UNIT
Input Voltage	V_{IN}			1.8		7	V
Output Voltage	V_{OUT}	I_{OUT} =1mA		0.98 V_{OUT}	V_{OUT}	1.02 V_{OUT}	V
Dropout Voltage	V_{DIF}	I_{OUT} =100mA			50		mV
Quiescent Current	I_Q	I_{OUT}=0			50	100	μA
Shutdown current	I_{CEL}	V_{CE}=V_{SS}			0.1	1	μA
Line Regulation	$\triangle V_{LINE}$	I_{OUT} =10mA V_{OUT}+1V≤V_{IN}≤6V			0.01	0.2	%/V
Load Regulation	$\triangle V_{LOAD}$	V_{IN}=V_{OUT}+1V 1mA≤I_{OUT}≤100mA			5		mV
Temperature Coefficient	TC	I_{OUT}=10mA -40°C<T_A<85°C			50		ppm
Short Current	I_{SHORT}	V_{OUT} =V_{SS}			200		mA
Accuracy		IOUT=10mA		-2		2	%
Power Supply Rejection Ratio	PSRR	I_{OUT}=30mA	100Hz		75		dB
			1kHz		80		
			10kHz		70		
			100kHz		55		
			1MHz		50		
Thermal Shutdown Temperature	TSD				150		°C
CE "High"	VCE“H”			1.5			V
CE "Low"	VCE“L”					0.4	V
Discharge Resistance	$R_{DISCHRG}$	VIN=5V			6		Ω
Inrush Current	I_{RUSH}	VIN=0→5V IOUT=100mA			150		mA
Limit Current	I_{LIMIT}			300	400		mA

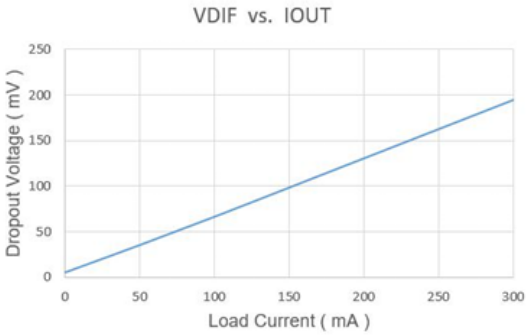
Typical Characteristics

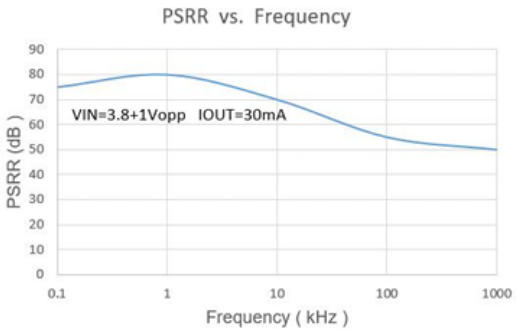
(Unless otherwise specified, VIN=VOUT+1V, CIN=COUT=1uF, TA=25°C)

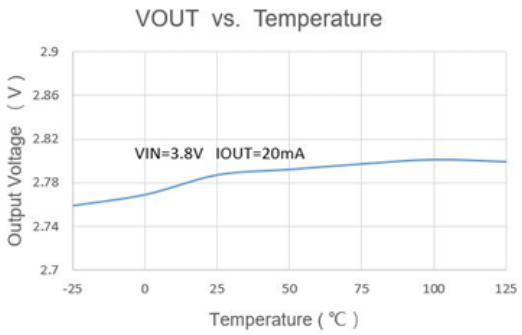




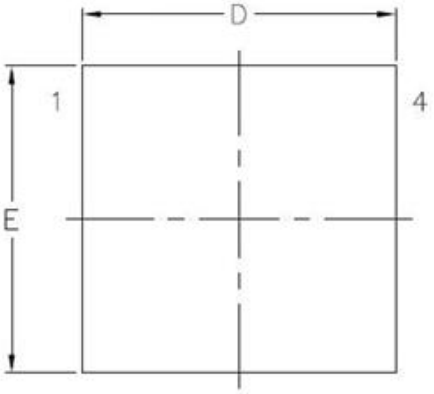




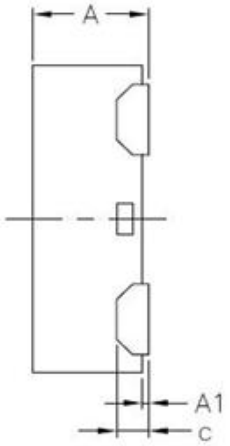




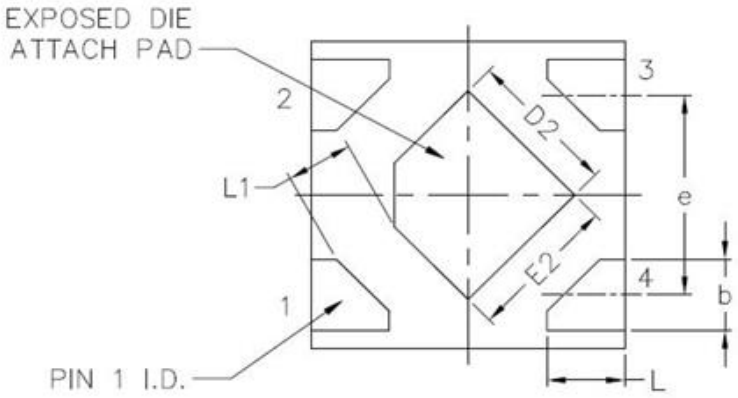
Package Information



TOP VIEW



SIDE VIEW



BOTTOM VIEW

尺寸 / 标注	最小 (mm)	标准 (mm)	最大 (mm)	尺寸 / 标注	最小 (mm)	标准 (mm)	最大 (mm)
A	0.32	0.37	0.41	e	0.65 BSC		
A1	0.00	0.02	0.05	E	0.95	1.00	1.05
b	0.18	0.23	0.28	E2	0.43	0.48	0.53
c	0.102 REF			L	0.20	0.25	0.30
D	0.95	1.00	1.05	L1	0.205 REF		
D2	0.43	0.48	0.53				

Order Information

Voltage	DFN1010-4L	Marking	Shipping	SOT23-5L	Marking	Shipping
1.2	√	1V2	Tape and Reel, 10K	√	1712	Tape and Reel, 3K
1.5				√	1715	
1.8	√	1V8		√	1718	
2.8	√	2V8		√	1728	
3.0				√	1730	
3.3				√	1733	

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