TECH PUBLIC
台舟电子

XC6227 Series

High Speed LDO Regulator with Reverse Current Protection

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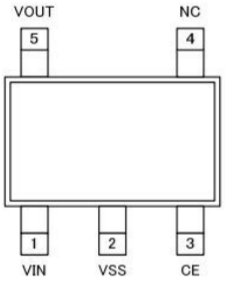
Features

- 100μA Current at no Load
- ±2% Output Accuracy
- 700mA Output Current
- Current Limit Protection

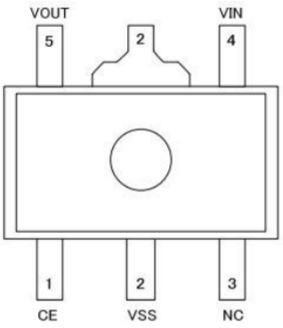
Applications

- Industrial Controls
- Home Automation
- Modules (Wireless, Camera, etc.)
- Portable, Battery Powered Equipment

PIN CONFIGURATION



SOT-25



SOT-89-5

Pin Number		Pin Name	Pin Function
SOT23-5	SOT89-5		
1	4	VIN	Input of Supply Voltage
2	2	GND(VSS)	Ground
3	1	EN(CE)	Enable ControlInput
4	3	NC	No Internal Connection
5	5	VOUT	Output of the Regulator

Ordering Information

XC6227C181MR

PACKAGE TYPE
MR:SOT23-5
PR:SOT89-5

OUTPUT VOLTAGE
12: 1.2V
15: 1.5V
18: 1.8V
25: 2.5V
30: 3.0V
33: 3.3V
50: 5.0V

MARKING DIAGRAMS

XC6227C121MR Marking:3EC07
XC6227C181MR Marking:3EL07
XC6227C331MR Marking:3H307

Absolute Maximum Ratings

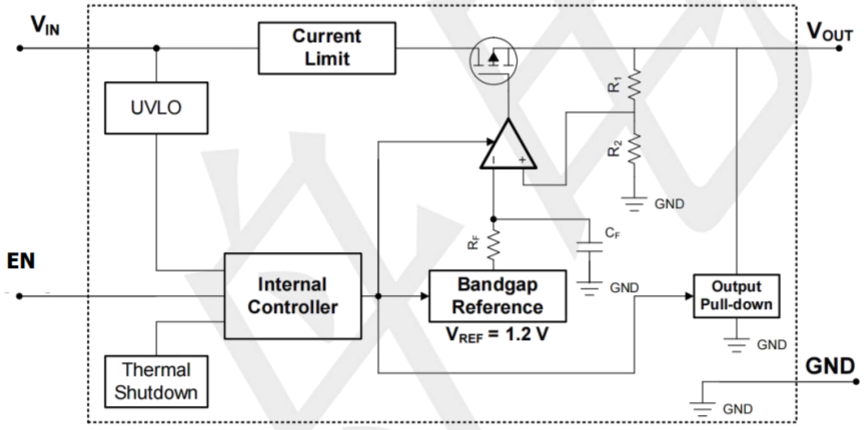
over operating free-air temperature range (unless otherwise noted)

		MIN	MAX	UNIT
VIN	Continuous input voltage range	-0.3	6.5	V
VOUT	Output voltage range	-0.3	6.5	
EN	EN pin voltage range	-0.3	6.5	
IOUT	Output pin current	Internally limited		mA
Temperature	Operating junction, TJ	-40	150	℃
	Storage, Tstg	-55	150	

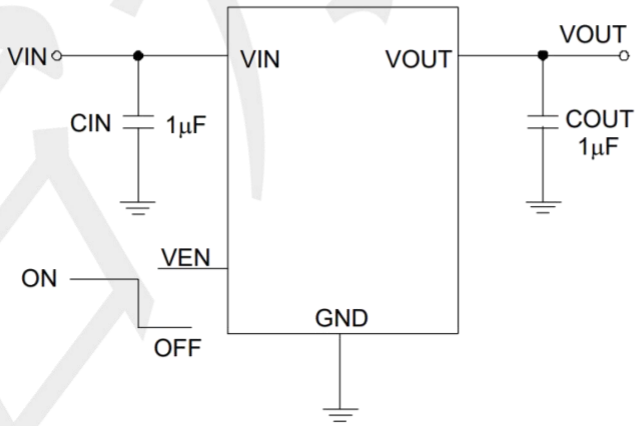
ESD Ratings

			VALUE	UNIT
V(ESD)	Electrostatic discharge	Human body model (HBM)	±2000	V
		Machine Model (MM)	±200	

BLOCK DIAGRAM



Typical Application Circuit



Electrical Characteristics

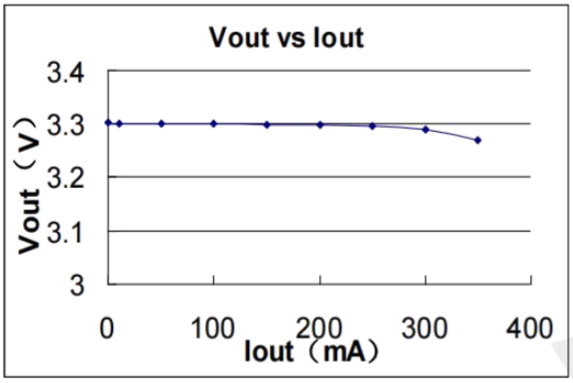
(VIN=15V, VEN=5V, TA=25℃, unless otherwise specified)

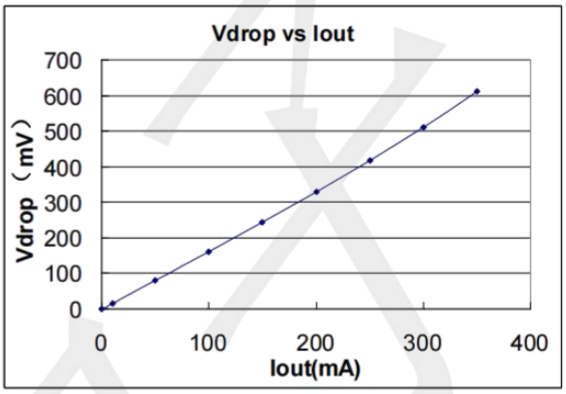
PARAMETER	SYMBOL	TEST Conditions	MIN	TYP	MAX	UNIT
Supply Voltage	VIN		1.7	--	6	V
Output current	IOUT		0	--	700	mA
DC Output Voltage Accuracy		IOUT = 0.1mA	-2	--	2	%
Dropout Voltage (VIN-VOUT)	IOUT = 100mA	VOUT = 1.5V	--	400	--	mV
		VOUT = 1.8V	--	300	--	
		VOUT = 2.8V	--	200	--	
		VOUT = 3.0V	--	180	--	
		VOUT = 3.3V	--	160	--	
		VOUT = 4.5V	--	130	--	
		VOUT = 5.0V	--	120	--	
Maximum output current	Ioutmax	VIN= VOUT+1V	--	700	--	mA
Ground Current (IOUT = 0mA)	IQ	VOUT = 3.3V	100	--	--	uA
Shutdown Ground Current	ISD	VEN = 0V, VOUT = 0V	--	0.01	0.5	
VOUT Shutdown Leakage Current	ILEAK		--	0.01	0.5	
Enable Threshold Voltage	VIH	EN Rising	1.2	--	--	V
	VIL	EN Falling	--	--	0.5	
EN Input Current	IEN	VEN = 5V	--	10	100	nA
Line Regulation	ΔLINE	IOUT =1mA, 2≤VIN≤6V	--	0.3	--	%
Load Regulation	ΔLOAD	10mA ≤ IOUT ≤ 100mA	--	0.3	--	
Output Current Limit	ILIM	VOUT=0.9× VOUT(NOM)	700	750		mA
Power Supply Rejection Ratio	PSRR	VOUT =3.3V, IOUT =30mA, VIN = 6V, f = 1kHz	--	65	--	dB
Thermal Shutdown Temperature	TSD	IOUT =10mA	--	160	--	℃
Thermal Shutdown Hysteresis	ΔTSD		--	15	--	
Package Thermal Resistance θJA (Note 1)	SOT23-5	Thermal Resistance Junction-toAmbient	--	210	--	℃/W
	SOT89-5		--	100	--	
Total Power Dissipation TC=25℃	SOT23-5	PDTOT	--	0.6	--	W
	SOT89-5		--	1.25	--	

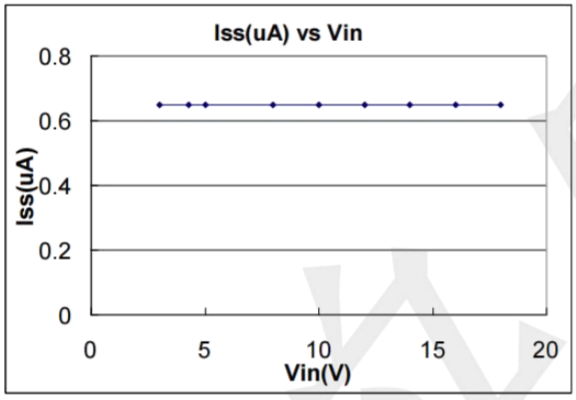
Note: 1. Test condition: For SOT23-5, the device is mounted on FR-4 substrate PC board, with minimum recommended pad layout. SOT89-5 devicesare mounted on 1″x1″ FR-4 substrate PC board, with minimum recommended pad layout

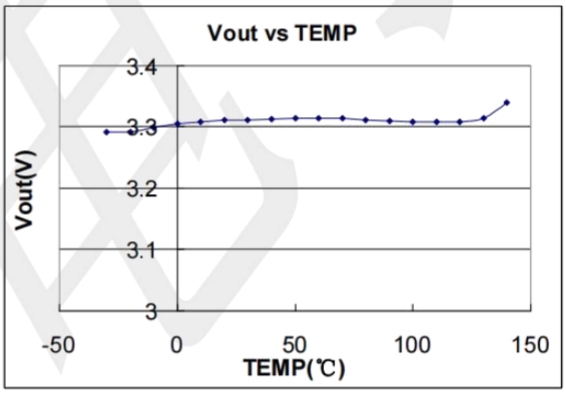
Typical Operating Characteristics (25 °C, unless otherwise noted)

Unless otherwise specified: TA = 25℃, VIN = VO(NOM) + 1 V, COUT = 1 μF, CIN = 1 μF all voltage options, EN pin tied to VIN.

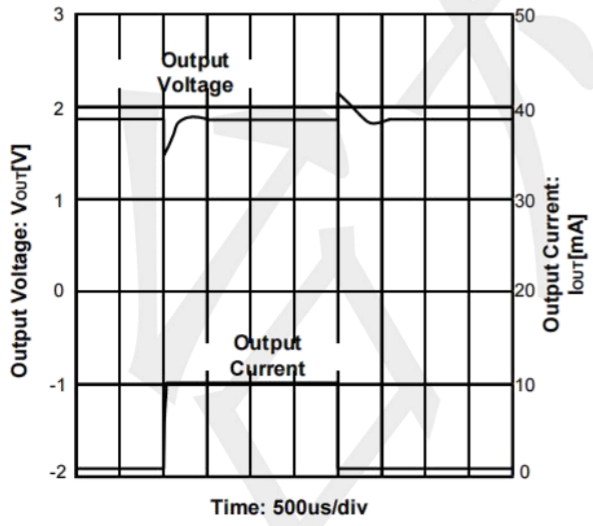








I_{OUT}=1mA↔10mA, t_R=t_F=5us, without C_{OUT}



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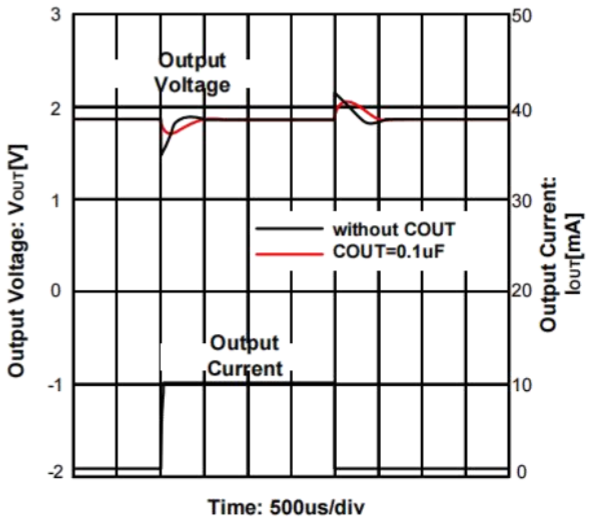
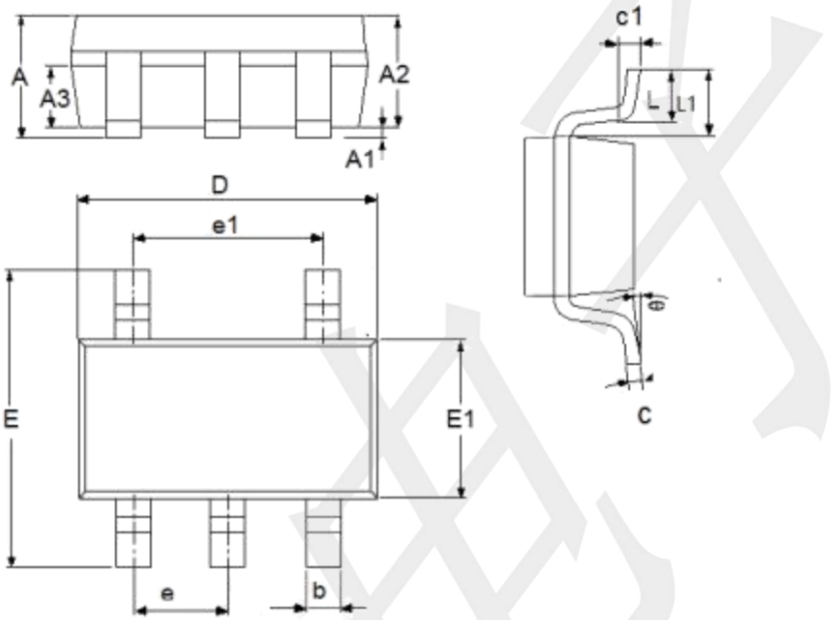


Package information

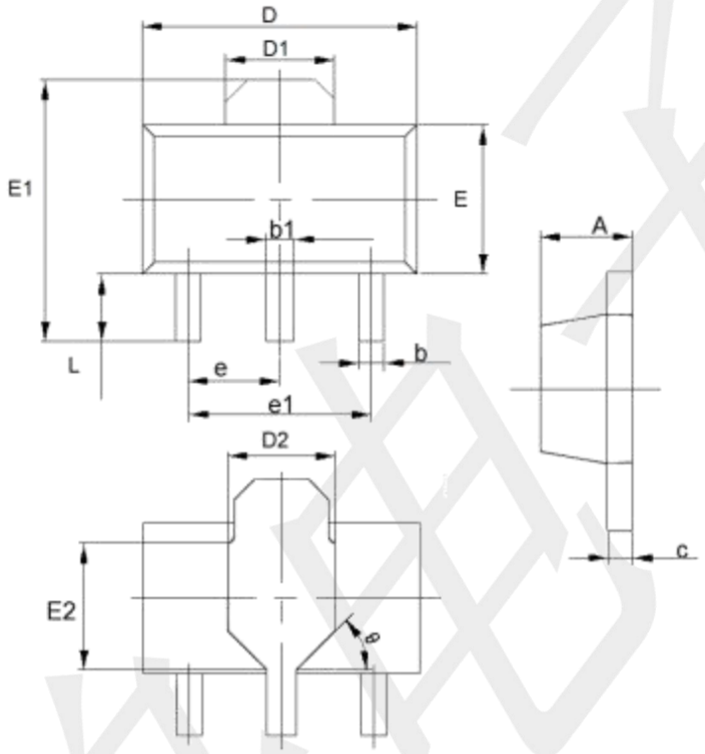
SOT23-5



参数	尺寸（mm）		尺寸（inch）	
	最小值	最大值	最小值	最大值
A	1.05	1.45	0.0413	0.0571
A1	0	0.15	0.0000	0.0059
A2	0.9	1.3	0.0354	0.0512
A3	0.6	0.7	0.0236	0.0276
b	0.25	0.5	0.0098	0.0197
c	0.1	0.23	0.0039	0.0091
D	2.82	3.05	0.1110	0.1201
e1	1.9(TYP)		0.0748(TYP)	
E	2.6	3.05	0.1024	0.1201
E1	1.5	1.75	0.0512	0.0689
e	0.95(TYP)		0.0374(TYP)	
L	0.25	0.6	0.0098	0.0236
L1	0.59(TYP)		0.0232(TYP)	
θ	0	8°	0.0000	8°
c1	0.2(TYP)		0.0079(TYP)	

Package information

SOT89-3



参数	尺寸（mm）		尺寸（Inch）	
	最小值	最大值	最小值	最大值
A	1.4	1.6	0.0551	0.0630
b	0.32	0.52	0.0126	0.0205
b1	0.4	0.58	0.0157	0.0228
c	0.35	0.45	0.0138	0.0177
D	4.4	4.6	0.1732	0.1811
D1	1.55(TYP)		0.061(TYP)	
D2	1.75(TYP)		0.0689(TYP)	
e1	3.0(TYP)		0.1181(TYP)	
E	2.3	2.6	0.0906	0.1023
E1	3.94	4.4	0.1551	0.1732
E2	1.9(TYP)		0.0748(TYP)	
e	1.5(TYP)		0.0591(TYP)	
L	0.8	1.2	0.0315	0.0472
θ	45°		45°	