Ultra-Small Package High-Programmable Precision Voltage Detector

■ General Description

The LN61A series is a series of high-programmable precision voltage detectors developed using CMOS process. The detection voltage is fixed internally with an accuracy of ±2.0%. Two output forms, Nch open-drain and CMOS output, are available. Ultra-low current consumption and miniature package lineup can meet demand from the portable device applications.

■ Features

- High-precision detection voltage±1%
- Ultra-low current consumption 4.0 μA typ. (Vin=3.0V)
- Operating voltage range 0.7 V to 8.0 V
- Output form Nch open-drain output (Active Low) or CMOS output (Active Low)
- Detection voltage temperature characteristics ± 100ppm(typ.)

■ Applications

- Battery checkers
- Power failure detectors
- Power monitor for portable equipments such as pagers, calculators, electronic notebooks and remote controllers.
- Constant voltage power monitor for cameras, video equipments and communication devices.
- Power monitor for microcomputers and reset for CPUs.

■ Package

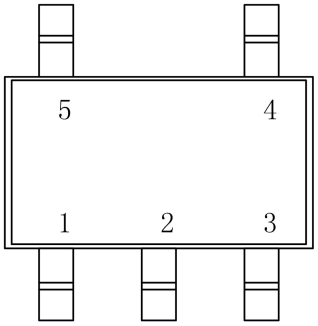
- SOT-353L
- SOT23-5L

■ Ordering Information

LN61A ①②

Designator	Description
①	Package Type: M=SOT-353L S=SOT23-5L
②	Device Orientation: R=Embossed Taped :Standard Feed L=Embossed Taped : Reverse Feed

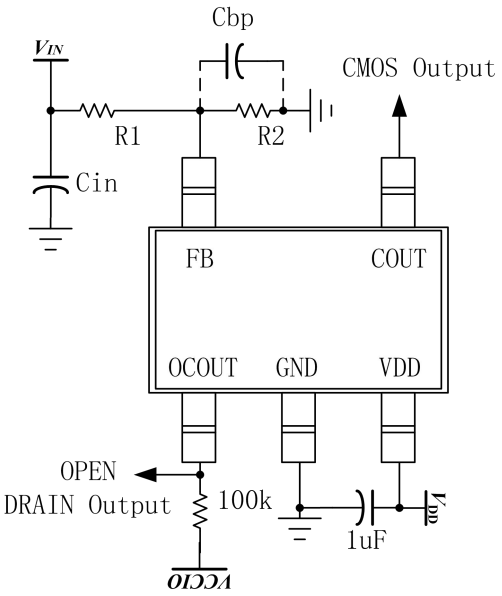
■ Pin Configurations



■ Pin Assignment

Pin No.		Pin name	Pin description
SOT-353L	SOT23-5L		
1	1	OCOUT	NMOS open- anti- logic output pin
2	5	GND	GND pin
3	2	VDD	Voltage input pin
4	4	COUT	CMOS output pin
5	3	FB	Feedback input pin

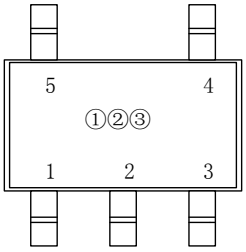
■ Typical Application Circuit



LN61AMR application circuit

■ Marking Rule

- SOT-353L/SOT23-5L



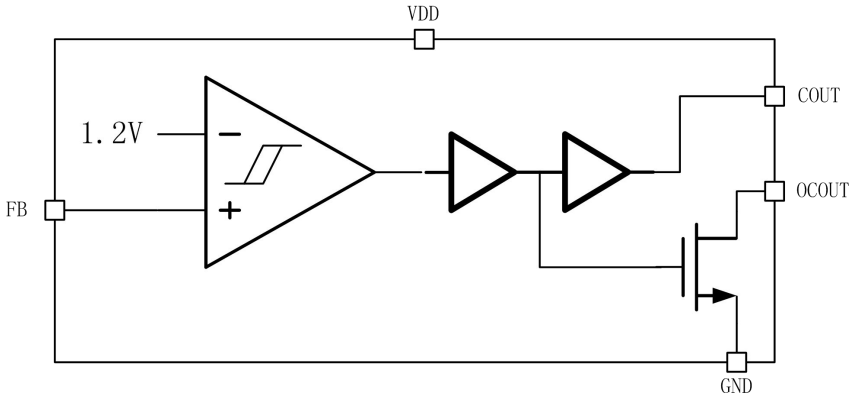
①②Represents the product name

Symbol	Product Description
CA	LN61A

③ **Denotes the production lot number**

④ 0～9，A～Z repeated (G，I，J，O，Q，W excepted)

■ Function Block Diagram



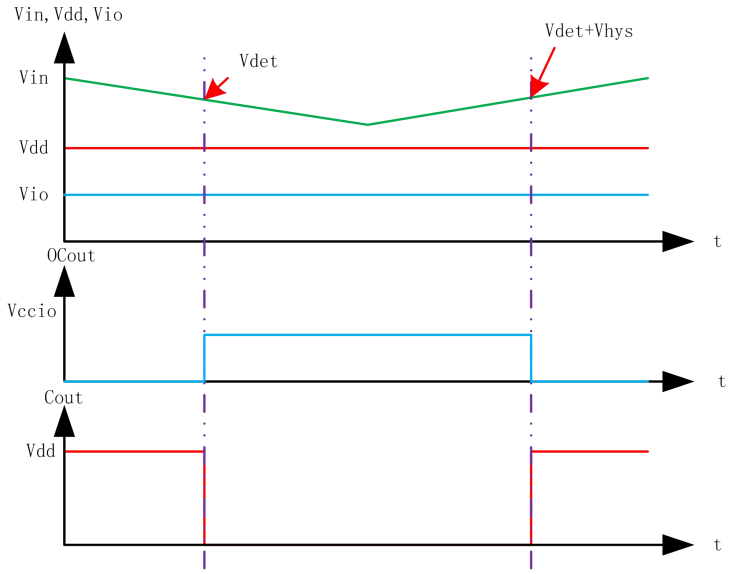
■ Absolute Maximum Ratings （Ta=25℃）

Item		Symbol	Absolute maximum ratings	unit
Power supply voltage		VDD	8	V
Feedback Voltage		VFB	8	V
Output Current		Iout	50	mA
Output Voltage	COUT	Vout	Vss-0.3～VDD+0.3	V
	OCOUT		Vss-0.3～8	
power dissipation	SOT-353L	Pd	150	mW
Operating ambient temperature		Topr	-40～+85	℃
storage temperature		Tstg	-40～+125	℃

■ Electrical Characteristics

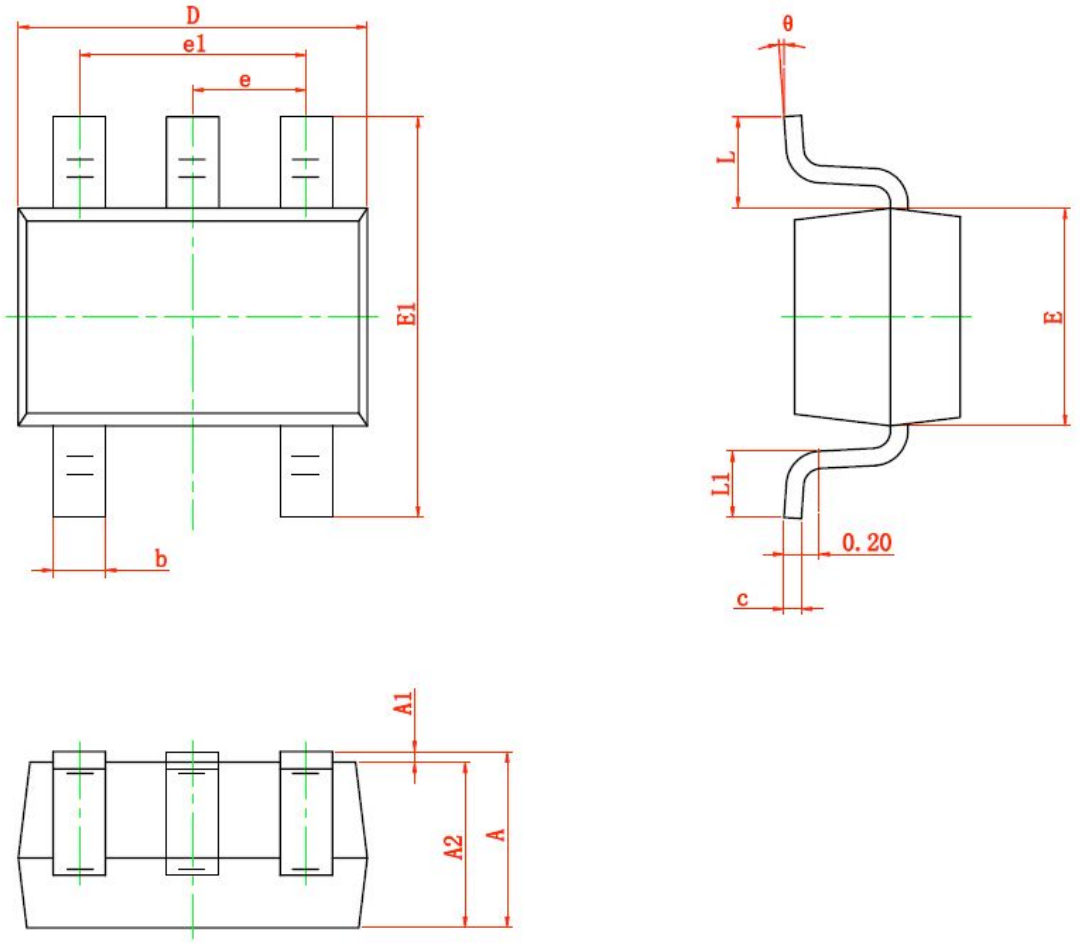
Item	Symbol	Condition		Min.	Typ.	Max.	Unit
Feedback Voltage	FB			1.188	1.2	1.212	V
Release voltage	V_{HYS}			VDD x0.02	VDD x0.03	VDD x0.04	V
Current consumption	Iss	VDD=3.0V		1.5	3.5	4.5	uA
Power supply voltage	V_{DD}	-		1.5		8	V
Output current	Iout	Nch Vds= 0.5V	VDD=1.0V	1.0	2.2		mA
			VDD=2.0V	3.0	7.7		
			VDD=3.0V	5.0	10.1		
			VDD=4.0V	6.0	11.5		
			VDD=5.0V	7.0	13.0		
		Pch vds=2.1 VDD=8.0			-10	-2	
Temperature coefficient		-40～+85℃			±100		ppm/℃

■ Timing Chart



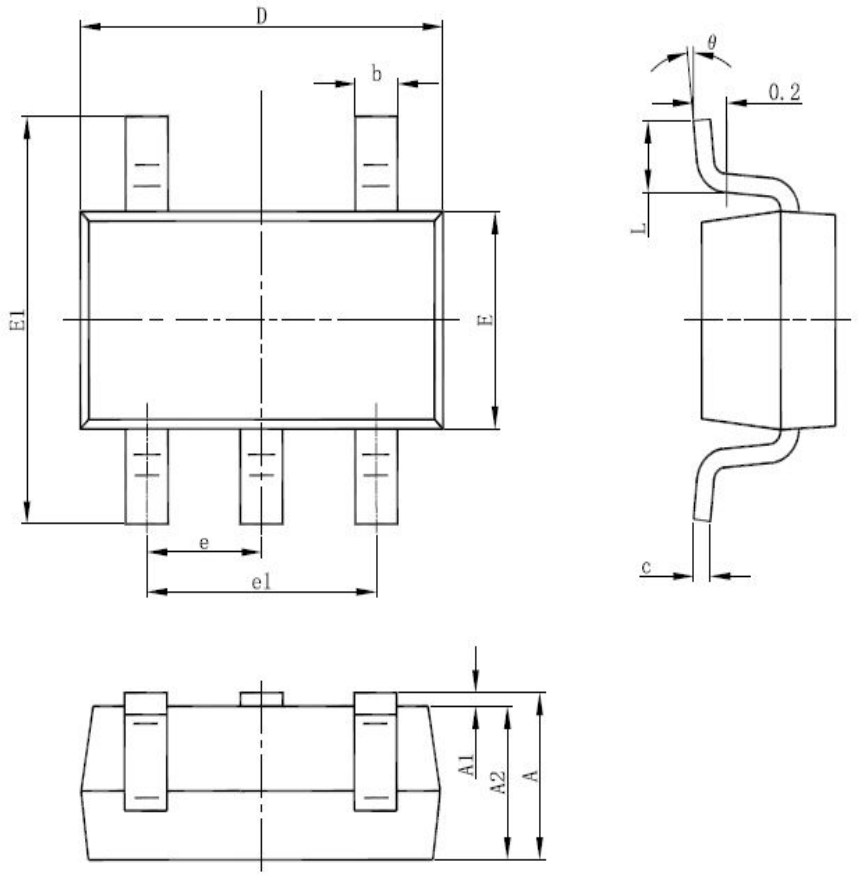
■ Package

- SOT-353L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

- SOT23-5L



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°