LDK220 LOW DROPOUT LINEAR REGULATOR

GENERAL DESCRIPTION

LDK220 series are a set of Low Dropout LinearRegulator ICs implemented in CMOS technology.They can withstand voltage 14V. And they areavailable with lowvoltage drop and low quiescentcurrent, widely used in battery-powered applications, 9V alkaline and one or two cell Li-Ion-powered , audio, video and communication appliances.

FEATURES

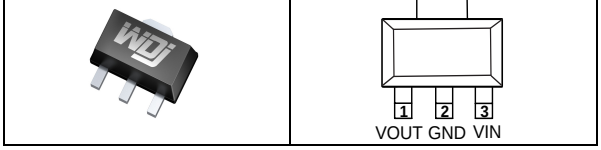
- Low Power Consumption
- Low Voltage Drop
- Low Temperature Coefficient
- Withstanding Voltage 14V
- Quiescent Current 3.0μA
- Output Voltage Accuracy: tolerance ±2%
- High output current: 200mA

TYPICAL APPLICATIONS

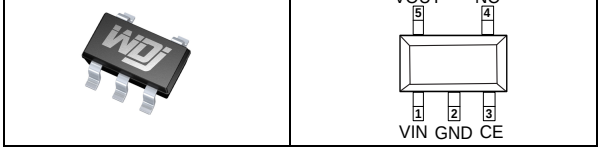
- Battery-powered Equipments
- Communication Equipments
- Audio/Video Equipments
- Smart Battery Packs
- Smoke Detectors
- CO2 DETECTORS

PIN CONFIGURATION

SOT89



SOT23-5



PIN DESCRIPTION

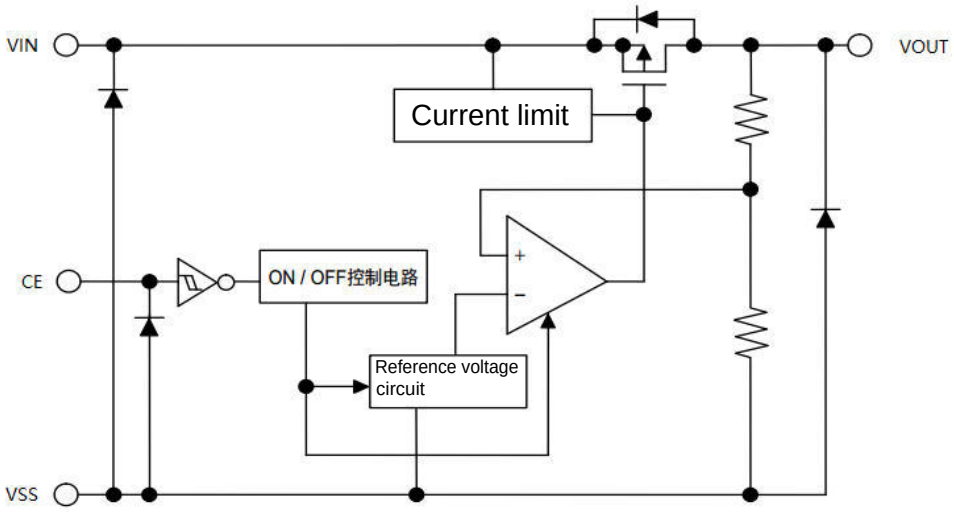
PIN No.		Name	Functions Description
SOT23-5	SOT89		
2	2	GND	ground
1	3	V_{IN}	input
5	1	V_{OUT}	output
3		CE	ON / OFF Control
4		NC	No Connect

OUTPUT

LDK220 X XX R

Package	Output	Tape and Reel
U : SOT89 M : SOT23-5	3002 : 3.0V 3302 : 3.3V 5002 : 5.0V	SOT89: 1000PCS SOT23-5: 3000PCS

FUNCTIONAL BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Description	Symbol	Value range	Unit
Limit Power Voltage	V_{IN}	−0.3～+16	V
Storage Temperature Range	T_{STG}	−50～+125	℃
Operating Free-air Temperature Range	T_A	−40～+85	℃

Note : Stresses greater than 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 Ratings” for extended periods may affect device reliability.

HEAT DISSIPATION

Description	Symbol	Package	Value range	Unit
Thermal resistance	θ_{JA}	SOT89	200	℃/W
		SOT23-5	500	℃/W
Power dissipation	P_W	SOT89	500	mW
		SOT23-5	200	mW

DC CHARACTERISTICS (unless otherwise noted T_A =＋25°C)

(V_{IN}= V_{OUT}+2.0V，C_{IN}=C_L=10uF，Ta=25°C, unless otherwise noted)

Series +3.3V OUTPUT

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output Voltage	V_{OUT}	V_{IN}=V_{OUT}+2.0V， I_{OUT}=10mA	3.234	3.3	3.366	V
Output Current	I_{OUT}	V_{IN}=V_{OUT}+2.0V	—	200	—	mA
Load Regulation	△ V_{OUT}	V_{IN}=V_{OUT}+2.0V 1mA≤I_{OUT}≤200mA	—	37	100	mV
Voltage Drop	V_{DIF}	I_{OUT}=100mA，△V_{OUT}=2%	—	250	350	mV
Quiescent Current	I_{SS}	No Load	—	3.0	5.0	μA
Line Regulation	△ V_{OUT}/ V_{OUT}* △ V_{IN}	V_{OUT}+1.0V≤V_{IN}≤14V， I_{OUT}=1mA	—	—	0.2	%/V
Input Voltage	V_{IN}	—	—	—	14	V
Temperature Coefficient	△ V_{OUT}/ △ T_A*V_{OUT}	V_{IN}=V_{OUT}+2.0V，I_{OUT}=10mA， -40°C≤T_A≤85°C	—	±100	—	ppm/ °C
Over current Protection	Ilim	V_{OUT}=0V	—	400	—	mA

Note : When V_{IN}=V_{OUT}+2.0V, as the output voltage declined 2%, the V_{DIF}=V_{IN}-V_{OUT}.

Series +5.0V OUTPUT

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Output Voltage	V_{OUT}	V_{IN}=V_{OUT}+2.0V， I_{OUT}=10mA	4.9	5.0	5.1	V
Output Current	I_{OUT}	V_{IN}=V_{OUT}+2.0V	—	200	—	mA
Load Regulation	△ V_{OUT}	V_{IN}=V_{OUT}+2.0V 1mA≤I_{OUT}≤200mA	—	37	100	mV
Voltage Drop	V_{DIF}	I_{OUT}=100mA，△V_{OUT}=2%	—	250	350	mV
Quiescent Current	I_{SS}	No Load	—	3.0	5.0	μA
Line Regulation	△ V_{OUT}/ V_{OUT}* △ V_{IN}	V_{OUT}+1.0V≤V_{IN}≤14V， I_{OUT}=1mA	—	—	0.2	%/V
Input Voltage	V_{IN}	—	—	—	14	V
Temperature Coefficient	△ V_{OUT}/ △ T_A*V_{OUT}	V_{IN}=V_{OUT}+2.0V，I_{OUT}=10mA， -40°C≤T_A≤85°C	—	±100	—	ppm/ °C
Over current Protection	Ilim	V_{OUT}=0V	—	400	—	mA

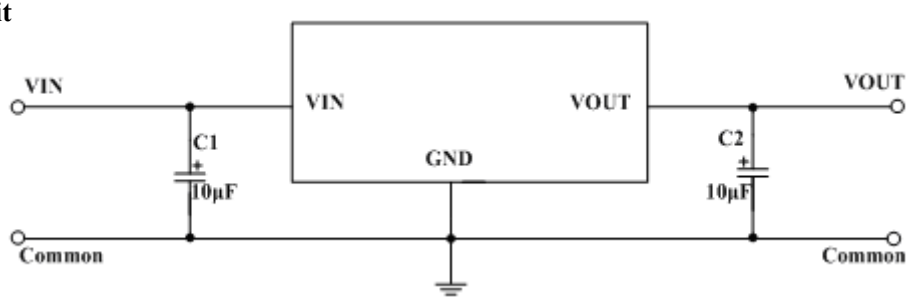
Note : When V_{IN}=V_{OUT}+2.0V, as the output voltage declined 2%, the V_{DIF}=V_{IN}-V_{OUT}.

FUNCTIONAL DESCRIPTION

LDK220 series are linear voltage regulator ICs withstanding 16V voltage. The series ICconsistsof a voltage reference, an error amplifier, a current limiter and a phase compensationcircuit plus a driver transistor. The output stabilization capacitor is also compatible with low ESR ceramic capacitors. The over current protection circuit and the over voltage protection circuit are built-in. The protection circuit will operate when the output current or input voltage reaches limit level.

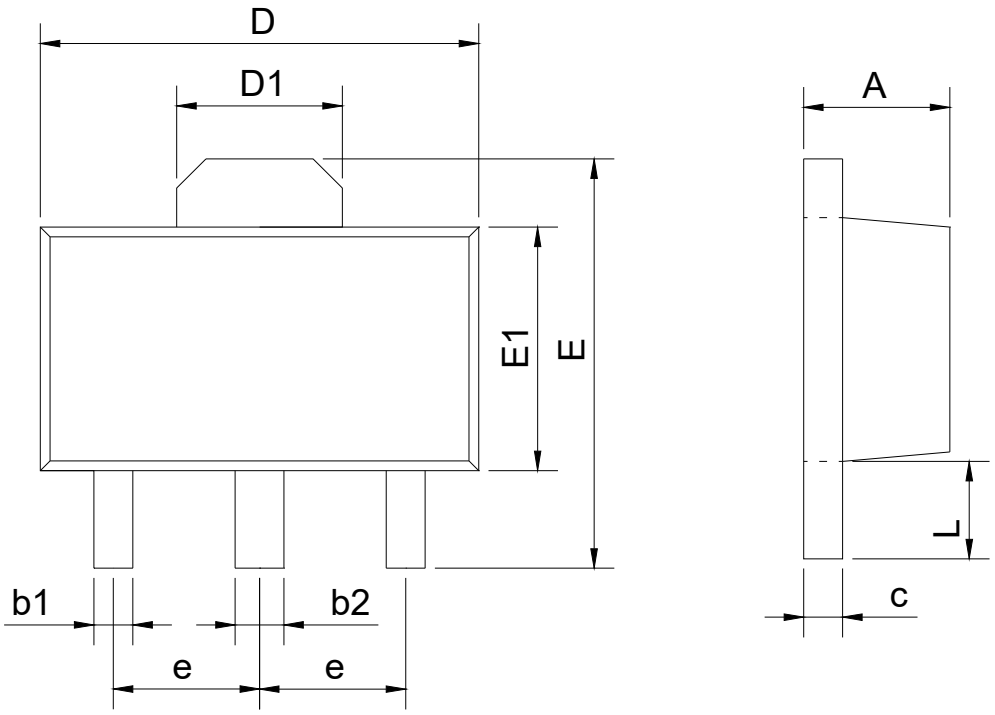
TYPICAL APPLICATION CIRCUIT

Basic Circuit



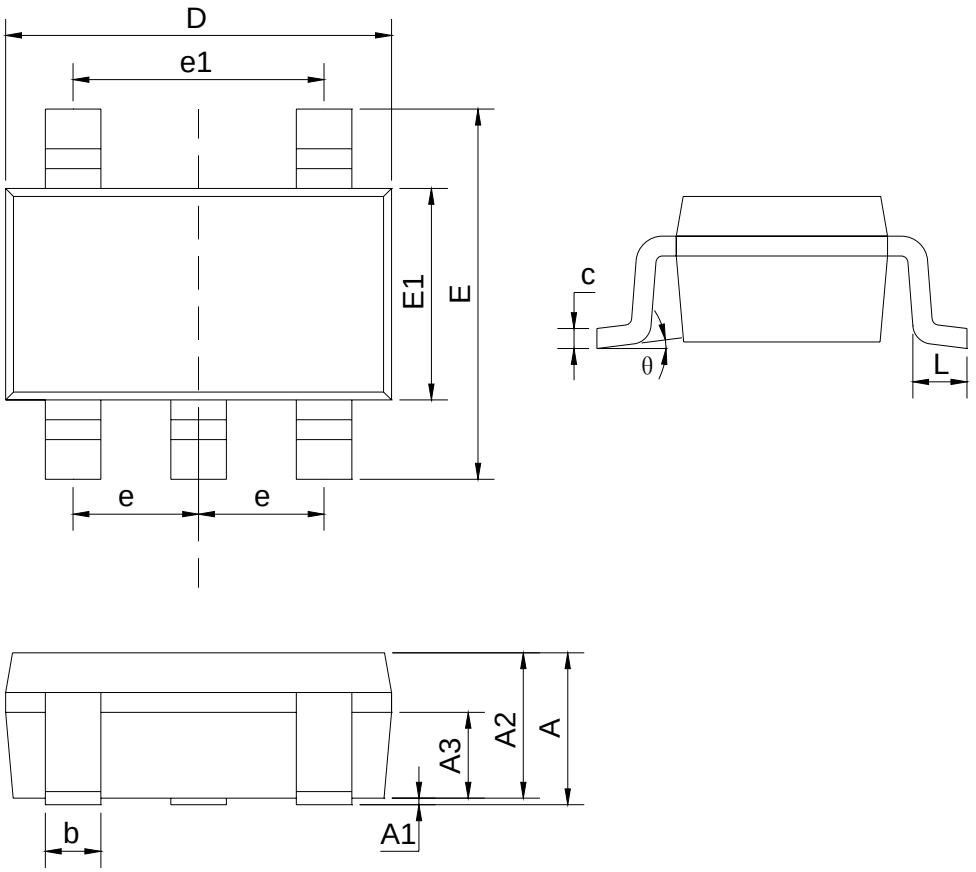
PACKAGE INFORMATION

SOT89



SYMBOL	mm	
	min	max
A	1.40	1.60
b1	0.35	0.50
b2	0.45	0.60
c	0.36	0.46
D	4.30	4.70
D1	1.40	1.80
E	4.00	4.40
E1	2.30	2.70
e	1.50BSC	
L	0.80	1.20

SOT23-5



SYMBOL	mm	
	min	max
A		1.35
A1	0.04	0.15
A2	1.00	1.20
A3	0.55	0.75
b	0.38	0.48
c	0.10	0.25
D	2.72	3.12
E	2.60	3.00
E1	1.40	1.80
e	0.95BSC	
e1	1.90BSC	
L	0.30	0.60
θ	0	8°

单击下面可查看定价，库存，交付和生命周期等信息

>>WDJ(微电晶)