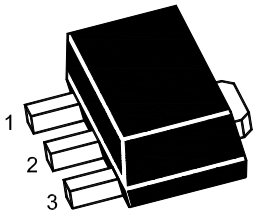
Features

- Low power consumption
- Low voltage drop
- Low temperature coefficient
- High input voltage (up to 24V)

Applications

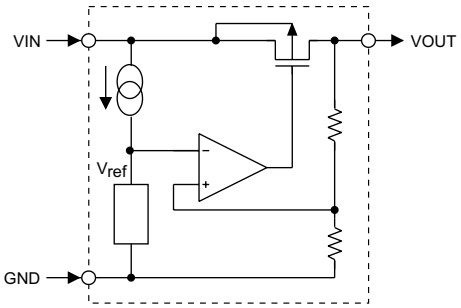
- Battery-powered equipment
- Communication equipment
- Audio/Video equipment

SOT-89



1.GND 2.VIN 3.VOUT

Block Diagram



General Description

The PJ71KXXSQ series is a set of three-terminal low power high voltage regulators implemented in CMOS technology. They allow input voltages as high as 24V. They are available with several fixed output voltages ranging from 3.0V to 5.0V. 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.

Selection Table

Part No.	Output Voltage	Tolerance
PJ71K30SQ	3.0V	±5%
PJ71K33SQ	3.3V	±5%
PJ71K36SQ	3.6V	±5%
PJ71K44SQ	4.4V	±5%
PJ71K50SQ	5.0V	±5%

Absolute Maximum Ratings (Ta=25℃ unless otherwise specified) Note1

Symbol	Parameter	Rating	Units
V_{IN}	Supply Voltage	-0.3V to 28V	V
P_D	Power Dissipation	200	mW
T_{OPR}	Operating Ambient	-40 ~ +85	°C
T_{STG}	Storage Temperature	-65 ~ +125	°C

Note1: These are stress ratings only. Stresses exceeding the range specified under Absolute Maximum Ratings may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

Electrical Characteristics

PJ71K30SQ (Ta=25℃)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Units
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	5V	I_{OUT}=10mA	2.85	3.0	3.15	V
I_{OUT}	Output Current	5V		20	30		mA
$\triangle V_{OUT}$	Load Regulation	5V	1mA≤I_{OUT}≤20mA		60	100	mV
V_D Note2	Voltage Drop		I_{OUT}=1mA		100		mV
I_{SS}	Current Consumption	5V	No load		4	6.0	uA
$\frac{\triangle V_{OUT}}{\triangle V_{IN} \times V_{OUT}}$	Line Regulation		V_{OUT}+2V≤V_{IN}≤24V I_{OUT}=1mA		0.2		%/V
V_{IN}	Input Voltage					24	V
$\frac{\triangle V_{OUT}}{\triangle Ta}$	Temperature Coefficient	5V	I_{OUT}=10mA 0℃<Ta<70℃		±0.45		mV/℃

PJ71K33SQ (Ta=25℃)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Units
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	5.3V	I_{OUT}=10mA	3.135	3.3	3.465	V
I_{OUT}	Output Current	5.3V		20	30		mA
$\triangle V_{OUT}$	Load Regulation	5.3V	1mA≤I_{OUT}≤30mA		60	100	mV
V_D Note2	Voltage Drop		I_{OUT}=1mA		100		mV
I_{SS}	Current Consumption	5.3V	No load		4	6	uA
$\frac{\triangle V_{OUT}}{\triangle V_{IN} \times V_{OUT}}$	Line Regulation		V_{OUT}+2V≤V_{IN}≤24V I_{OUT}=1mA		0.2		%/V
V_{IN}	Input Voltage					24	V
$\frac{\triangle V_{OUT}}{\triangle Ta}$	Temperature Coefficient	5.3V	I_{OUT}=10mA 0℃<Ta<70℃		±0.5		mV/℃

PJ71K36SQ (Ta=25℃)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Units
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	5.6V	I_{OUT}=10mA	3.42	3.6	3.78	V
I_{OUT}	Output Current	5.6V		20	30		mA
$\triangle V_{OUT}$		5.6V			60	100	mV
V_D Note2	Voltage Drop		I_{OUT}=1mA		60		mV
I_{SS}		5.6V			3.0	7.0	uA
$\frac{\triangle V_{OUT}}{\triangle V_{IN} \times V_{OUT}}$	Line Regulation		V_{OUT}+2V≤V_{IN}≤24V I_{OUT}=1mA				
V_{IN}	Input Voltage					24	V
$\frac{\triangle V_{OUT}}{\triangle Ta}$	Temperature Coefficient	5.6V	I_{OUT}=10mA 0℃<Ta<70℃		±0.6		mV/℃

PJ71K44SQ (Ta=25℃)

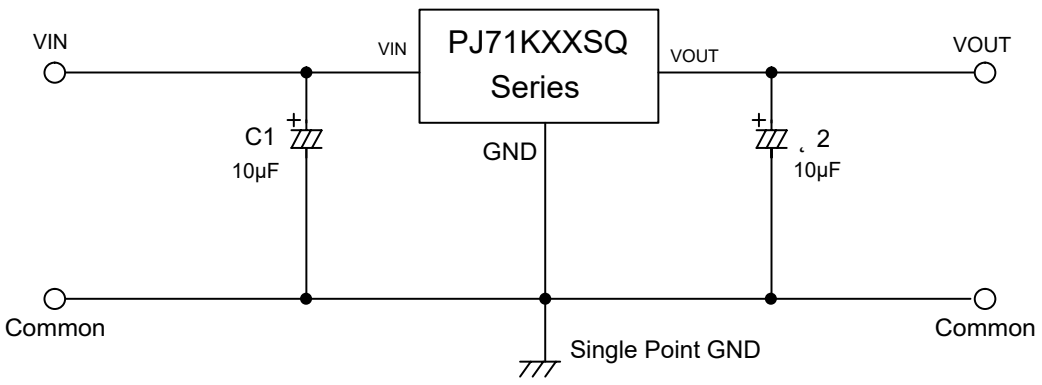
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Units
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	6.4V		4.18	4.4	4.62	V
I_{OUT}		6.4V		20	30		mA
$\triangle V_{OUT}$	Load Regulation	6.4V			60	100	mV
V_D Note2	Voltage Drop		I_{OUT}=1mA		100		mV
I_{SS}	Current Consumption	6.4V	No load		4	7.5	uA
$\frac{\triangle V_{OUT}}{\triangle V_{IN} \times V_{OUT}}$	Line Regulation		V_{OUT}+2V≤V_{IN}≤24V I_{OUT}=1mA		0.2		%/V
V_{IN}	Input Voltage					24	V
$\frac{\triangle V_{OUT}}{\triangle Ta}$	Temperature Coefficient	6.4V	I_{OUT}=10mA 0℃<Ta<70℃		±0.7		mV/℃

PJ71K50SQ (Ta=25℃)

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Units
		V_{IN}	Conditions				
V_{OUT}	Output Voltage	7V	I_{OUT}=10mA	4.75	5.0	5.25	V
I_{OUT}	Output Current	7V		20	30		mA
$\triangle V_{OUT}$	Load Regulation	7V	1mA≤I_{OUT}≤30mA		60	100	mV
V_D Note2	Voltage Drop		I_{OUT}=1mA		100		mV
I_{SS}	Current Consumption	7V	No load		5	9	uA
$\frac{\triangle V_{OUT}}{\triangle V_{IN} \times V_{OUT}}$	Line Regulation		V_{OUT}+2V≤V_{IN}≤24V I_{OUT}=1mA		0.2		%/V
V_{IN}	Input Voltage					24	V
$\frac{\triangle V_{OUT}}{\triangle Ta}$	Temperature Coefficient	7V	I_{OUT}=10mA 0℃<Ta<70℃		±0.75		mV/℃

NOTE: 2.The difference of input voltage and output voltage when input voltage falls down gradually till output voltage equals to 98% of rating V_{OUT} .

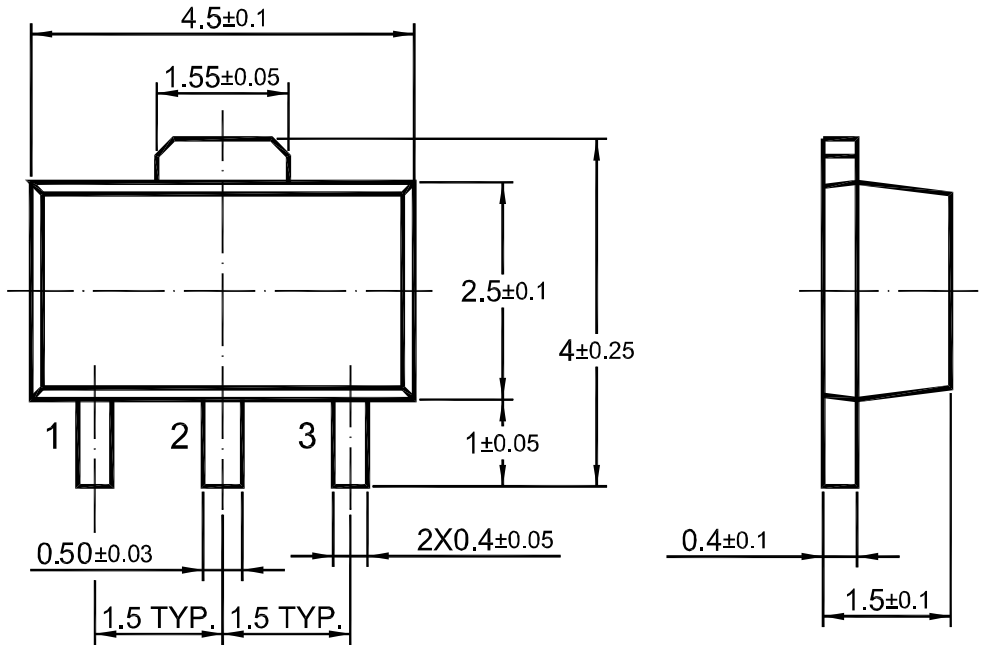
Application Circuits



Package Outline

SOT-89

Dimensions in mm

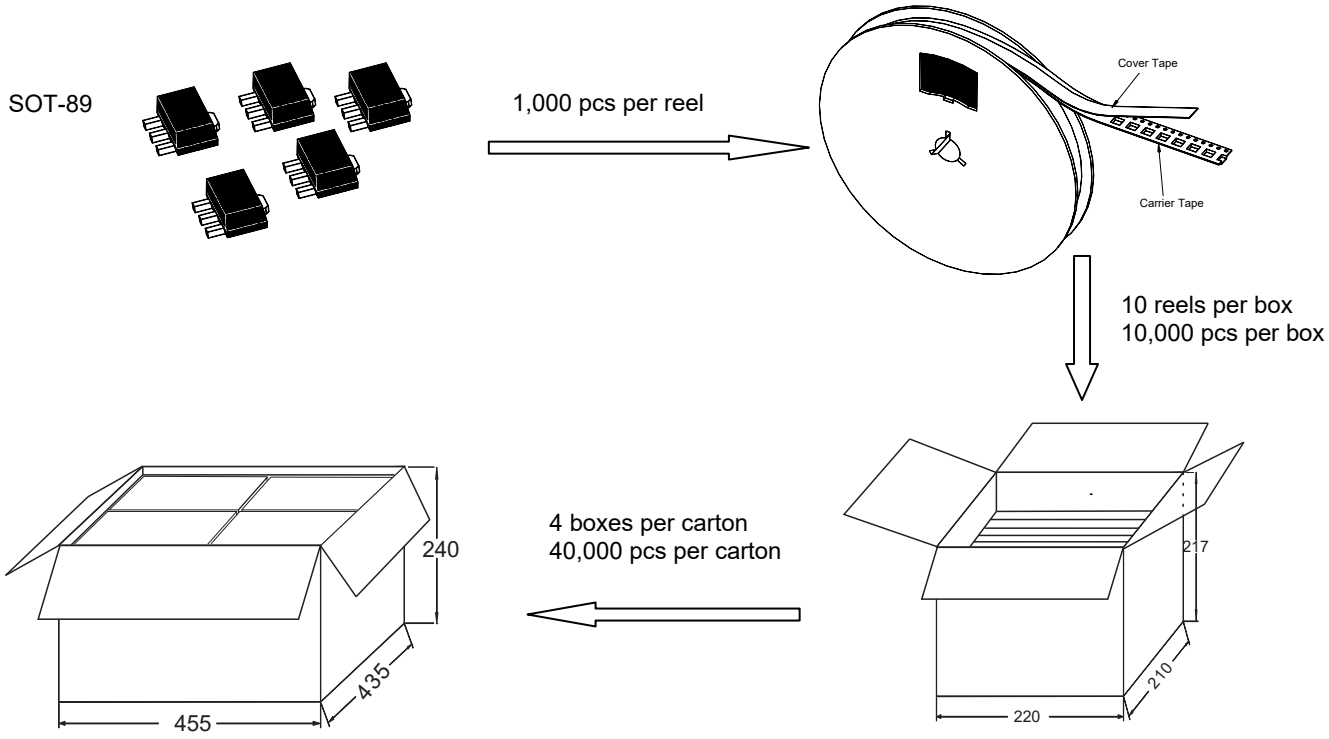


Ordering Information

Device	Package	Shipping
PJ71KXXSQ	SOT-89	1000PCS/Reel&Tape

Packaging Specification

The method of packaging and dimension are shown as below figure.



Tape and reel data (Units: mm)

