



# PJ75AL50SA

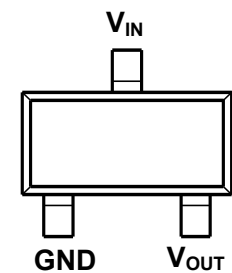
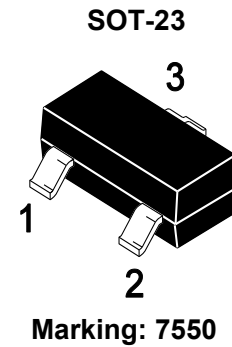
## Low Dropout Regulators

### Description

The PJ75AL50SA is a set of three-terminal low power high voltage regulators implemented in CMOS technology. Allow input voltages as high as 36V and output voltages 5.0V. Because of the low power dissipation, PJ75AL50SA are widely used in a variety of equipment such as audio device, video device, communication device and so on.

### Description

- ◆ Low power consumption
- ◆ Low voltage drop
- ◆ Low temperature coefficient
- ◆ High input voltage (up to 36V)
- ◆ Quiescent current : 3.5 $\mu$ A
- ◆ Output voltage tolerance:  $\pm$ 2%
- ◆ HAF(halogen and antimony free) is acquired



Pin assignment

### Absolute Maximum Ratings<sup>(NOTE1)</sup>

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Limit	Unit
Supply voltage	-0.3 ~ +36	V
Storage temperature range	-50 ~ +125	°C
Operating temperature range	-40 ~ +85	°C

NOTE: 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 conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

Parameter	Symbol	Value	Unit
Junction-to-Ambient Thermal Resistance	R <sub>θJA</sub>	286	°C/W
Power Consumption	P <sub>D</sub>	350	mW



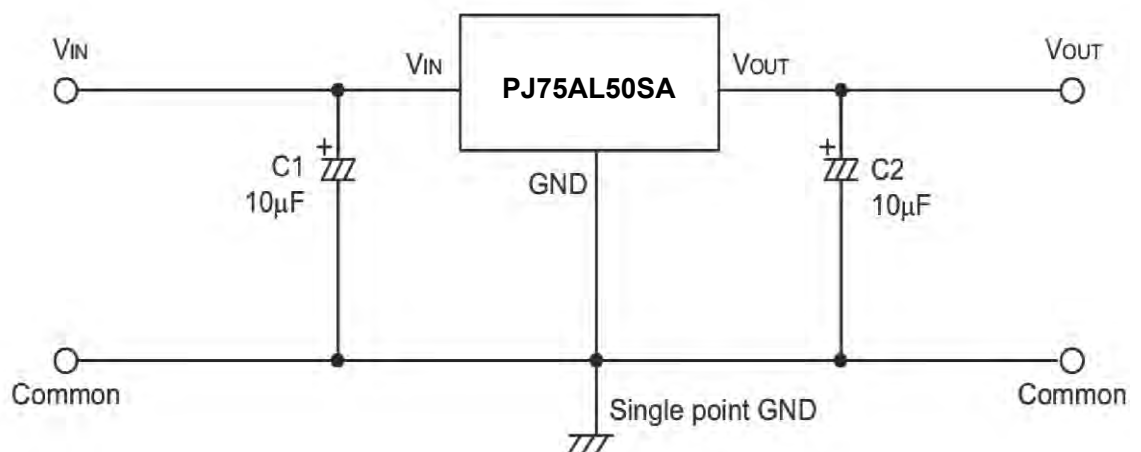
### Electrical Characteristics

Parameter	Symbol	Test conditions	Min.	Typ.	Max	Unit
Output voltage	$V_{OUT}$	$V_{IN}=V_{OUT}+2.0V$ , $I_{OUT}=10mA$	4.900	5.0	5.100	V
Output current	$I_{OUT}$	$V_{IN}=V_{OUT}+2.0V$	100	150	--	mA
Load regulation	$\Delta V_{OUT}$	$V_{IN}=V_{OUT}+2.0V$ $1mA \leq I_{OUT} \leq 70mA$	--	25	60	mV
Voltage drop <sup>Note2</sup>	$V_{DIF}$	$I_{OUT}=1mA$ , $\Delta V_{OUT}=2\%$	--	25	55	mV
Quiescent Current	$I_Q$	No Load	--	3.5	4.0	$\mu A$
Line regulation	$\frac{\Delta V_{OUT}}{V_{OUT}} \times \Delta V_{IN}$	$V_{OUT}+1.0V \leq V_{IN} \leq 30V$ , $I_{OUT}=1mA$	--	--	0.2	%/V
Input voltage	$V_{IN}$		--	--	36	V
Temperature coefficient	$\frac{\Delta V_{OUT}}{V_{OUT}} \times \Delta T_A$	$V_{IN}=V_{OUT}+2.0V$ , $I_{OUT}=10mA$ , $-40^\circ C \leq T_A \leq 85^\circ C$	--	100	--	ppm/ $^\circ C$

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 Circuit

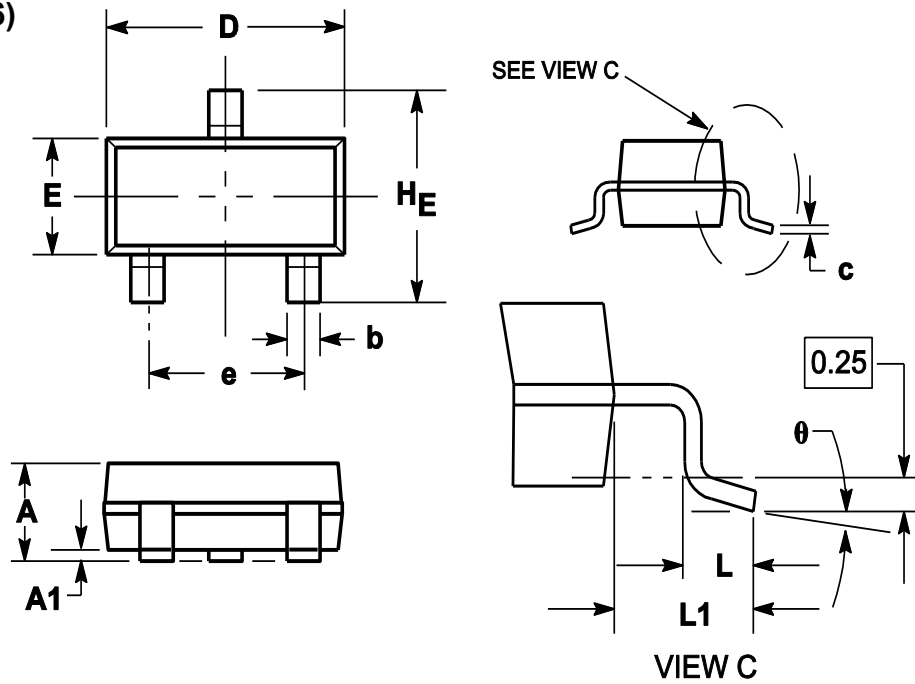
#### Basic circuits



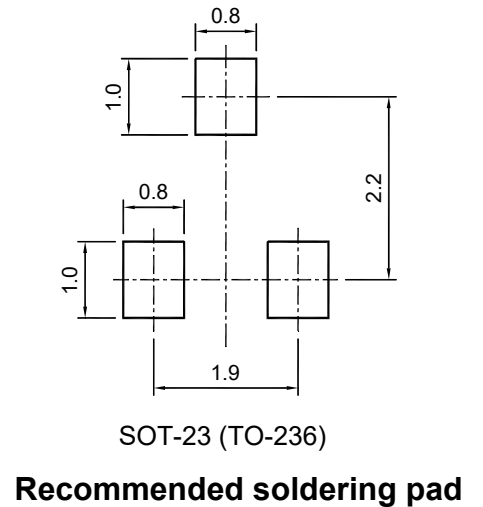


### Package Outline

#### SOT-23 (TO-236)



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
$\theta$	0°		8°



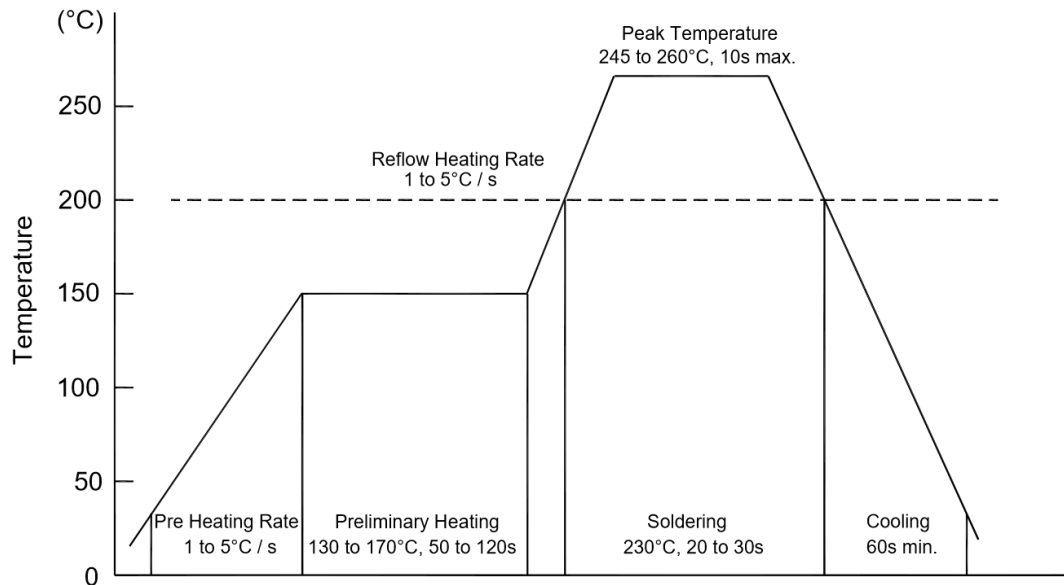
### Ordering Information

Device	Package	Shipping
PJ75AL50SA	SOT-23	3000/Reel&Tape(7inch)



### Conditions of Soldering and Storage

#### ◆ Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

#### ◆ Conditions of hand soldering

- Temperature: 370 °C
- Time: 3s max.
- Times: one time

#### ◆ Storage conditions

- **Temperature**  
5 to 40 °C
- **Humidity**  
30 to 80% RH
- **Recommended period**  
One year after manufacturing



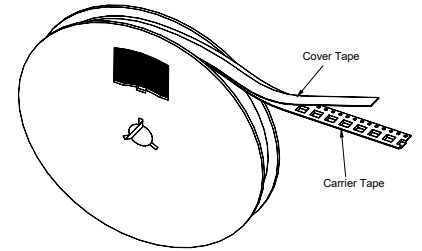
### Package Specifications

#### ◆ The method of packaging

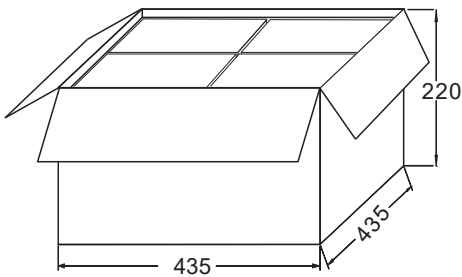
SOT-23 (TO-236)



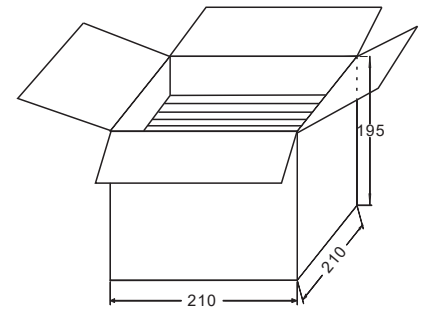
3,000 pcs per reel



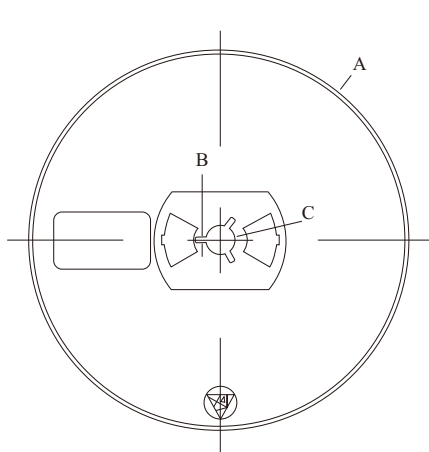
30,000 pcs per box  
10 reels per box



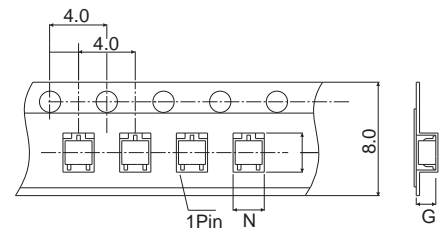
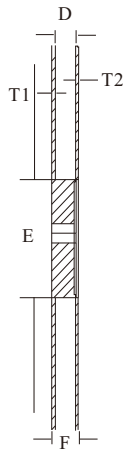
120,000 pcs per carton  
4 boxes per carton



#### ◆ Embossed tape and reel data



Reel (7")



Tape (8mm)

Symbol	Value (unit: mm)
A	Ø 177.8±1
B	2.7±0.2
C	Ø 13.5±0.2
E	Ø 54.5±0.2
F	12.3±0.3
D	9.6+2/-0.3
T1	1.0±0.2
T2	1.2±0.2
N	3.15±0.1
G	1.25±0.1

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