

# SHARP

## PQ033ES3MXP

## PQ050ES3MXP

Under development

New product

### Low Power-Loss Voltage Regulator

Low Output Current, Compact Surface Mount Type Low Power-Loss Voltage Regulators

#### Features

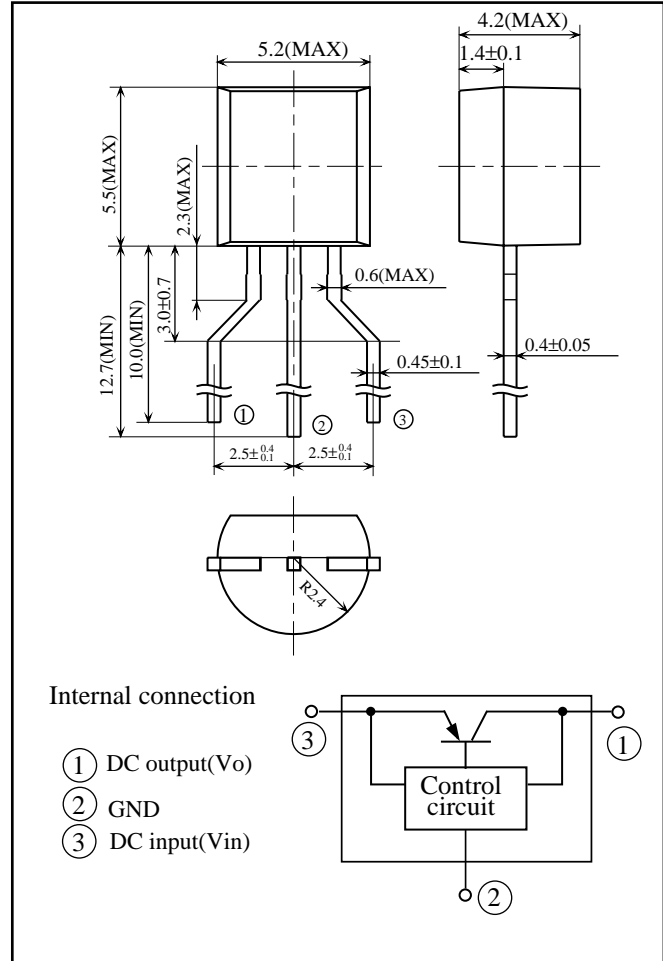
- (1) Compact package : TO-92 type  
(Size(mold part) 5.2 × 5.5 × 4.2 mm)
- (2) Small current output : 300 mA(MAX.)
- (3) Low power-loss :  
Dropout voltage : MAX. 0.7 V at  $I_o=300$  mA
- (4) Built-in overcurrent, overheat protection functions
- (5) Taped package

#### Applications

- (1) TV
- (2) VCR
- (3) Air conditioner
- (4) DVD player
- (5) Audio equipment

#### Outline Dimensions

(Unit: mm)



#### Absolute Maximum Ratings

( $T_a=25^{\circ}\text{C}$ )

Parameter	Symbol	Ratings	Unit
*1 Input voltage	$V_{in}$	9	V
Output current	$I_o$	300	mA
*2 Power dissipation	$P_d$	520	mW
*3 Junction temperature	$T_j$	150	$^{\circ}\text{C}$
Operating temperature	$T_{opr}$	-30 to +80	$^{\circ}\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$
Soldering temperature	$T_{sol}$	260(For 10s)	$^{\circ}\text{C}$

\*1 All are open except GND and applicable terminals.

\*2 At mounted condition

\*3 Overheat protection may operate at  $125 \leq T_j \leq 150^{\circ}\text{C}$ .

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(Internet)

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## PQ033ES3MXP

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### Low Power-Loss Voltage Regulator

#### ■ Electrical Characteristics

(Unless otherwise specified,  $V_{in}=V_o(\text{TYP.})+1.0\text{V}$ ,  $I_o=30\text{mA}$ ,  $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output voltage	$V_o$	-	Refer to the table below.			V
Load regulation	RegL	$I_o=5\text{ mA to }300\text{ mA}$	-	35	160	mV
Line regulation	RegI	$V_{in}=V_o(\text{TYP.})+1\text{V to }V_o(\text{TYP.})+6\text{V(MAX. }9\text{V)}$	-	3.0	20	mV
Temperature coefficient of output voltage	$T_cV_o$	$I_o=10\text{mA}$ , $T_j=-25\text{ to }+75^\circ\text{C}$	-	0.05	-	mV/ $^\circ\text{C}$
Ripple rejection	RR	-	-	55	-	dB
Dropout voltage	$V_{i-o}$	$I_o=300\text{ mA}$ , $V_{in}=\ast 4$	-	0.3	0.7	V
Quiescent current	$I_q$	$I_o=0\text{mA}$	-	190	650	$\mu\text{A}$

$\ast 4$  Dropout voltage when output voltage lowers 0.1V from the voltage at  $V_{in}=V_o+1\text{V}$ .

#### ■ Output Voltage Line-up

( $V_{in}=V_o(\text{TYP.})+1.0\text{V}$ ,  $I_o=30\text{mA}$ ,  $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output voltage	<b>PQ033ES3MXP</b>	-	3.234	3.3	3.366	V
	<b>PQ050ES3MXP</b>		4.900	5.0	5.100	

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    - Office automation equipment
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    - Audio visual equipment
    - Consumer electronics
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    - Traffic signals
    - Gas leakage sensor breakers
    - Alarm equipment
    - Various safety devices, etc.
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