

# PQ15RW21

# Low Power-Loss Voltage Regulator

2.0A, Variable Output, General Purpose Type Low Power-Loss Voltage Regulator

## General Description

SHARP's **PQ15RW21** is 3.0 to 15V/2.0A output type general purpose low power-loss voltage regulator(TO-220). It contributes to energy and space saving of various electronic equipment such as AV, OA equipment.

## Features

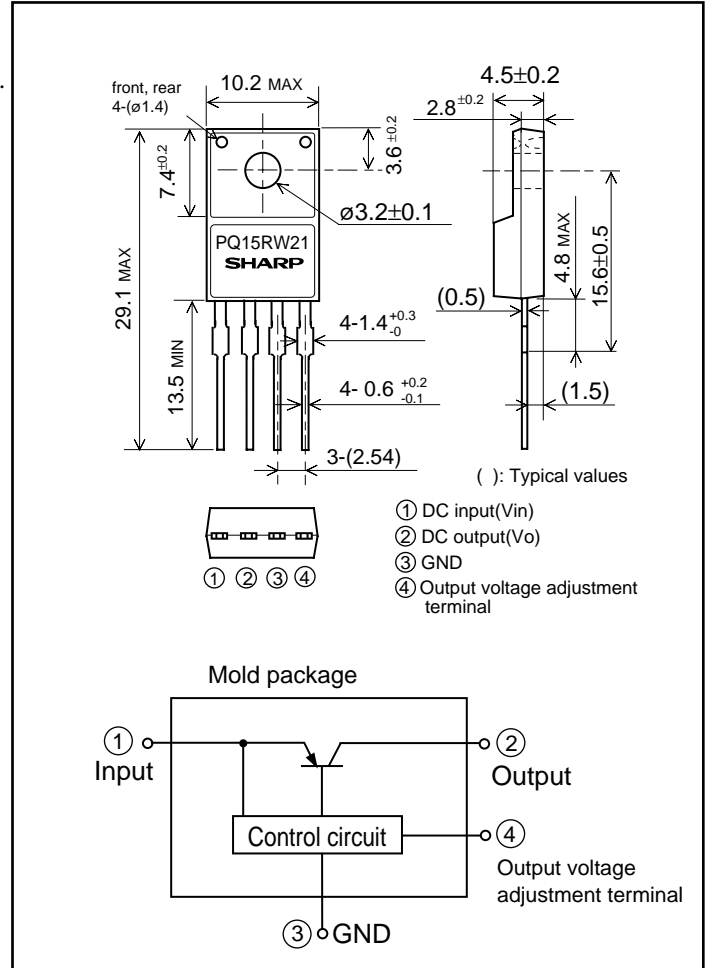
- (1) Low power-loss  
(Dropout voltage: MAX. 0.5V at  $I_o=2A$ )
- (2) 2A output type
- (3) Compact resin mold package(equivalent to TO-220)
- (4) Variable output voltage(3.0 to 15V)
- (5) Output voltage precision:  $\pm 2.5\%$
- (6) Overcurrent, overheat protection functions
- (7) Lead forming type is also available.

## Applications

- (1) Power supplies for various electronic equipment such as AV, OA

## Outline Dimensions

(Unit : mm)



(Notice) • In the absence of device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.

• Specifications are subject to change without notice for improvement.

(Internet) • Data for Sharp's optoelectronic/power devices is provided for internet. ( Address <http://www.sharp.co.jp/ecg/>)

### ■ Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
*1 Input voltage	V <sub>in</sub>	20	V
Output adjustment terminal voltage	V <sub>ADJ</sub>	5	V
Output current	I <sub>o</sub>	2.0	A
*2 Power dissipation	Pd1	1.4	W
	Pd2	15	W
*3 Junction temperature	T <sub>j</sub>	150	°C
Operating temperature	T <sub>opr</sub>	-20 to +80	°C
Storage temperature	T <sub>stg</sub>	-40 to +150	°C
Soldering temperature	T <sub>sol</sub>	260(For 10s)	°C

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

\*2 Pd1: No heat sink, Pd2: With infinite heat sink

\*3 Overheat protection may operate at 125≤T<sub>j</sub>≤150°C

### ■ Electrical Characteristics

(Unless otherwise specified, conditions shall be V<sub>in</sub>=5V, V<sub>o</sub>=3.3V(R1=2kΩ, R2=500Ω), I<sub>o</sub>=0.5A) (Ta=25°C)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Input voltage	V <sub>in</sub>	–	3.5	–	20	V
Output voltage	V <sub>o</sub>	–	3.0	–	15	V
Load regulation	Reg <sub>L</sub>	I <sub>o</sub> =5mA to 2A	–	0.1	2	%
Line regulation	Reg <sub>L</sub>	V <sub>in</sub> =5 to 15V, I <sub>o</sub> =5mA	–	0.1	2.5	%
Ripple rejection	RR	–	45	55	–	dB
Reference voltage	V <sub>ref</sub>	–	2.574	2.64	2.706	V
Temperature coefficient of reference voltage	T <sub>c</sub> /V <sub>ref</sub>	T <sub>j</sub> =0 to 125°C	–	±0.01	–	%/°C
Dropout voltage	V <sub>i-o</sub>	V <sub>in</sub> =3.5V, I <sub>o</sub> =2A	–	–	0.5	V
Quiescent current	I <sub>q</sub>	I <sub>o</sub> =0A	–	–	8	mA