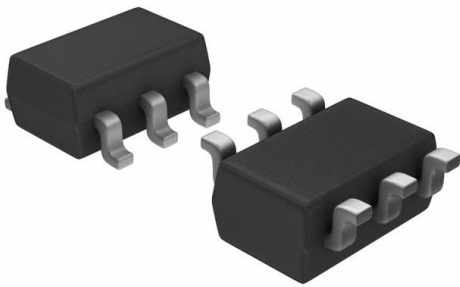


PQ1K253M2ZP Datasheet

www.digi-electronics.com



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DiGi Electronics Part Number	PQ1K253M2ZP-DG
Manufacturer	Sharp Microelectronics
Manufacturer Product Number	PQ1K253M2ZP
Description	IC REG LIN 2.5V 300MA SOT23L-6
Detailed Description	Switching Regulator IC Output

This model PQ1K253M2ZP is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

PQ1K253M2ZP

Series:

*

Base Product Number:

PQ1K253

Manufacturer:

Sharp Microelectronics

Product Status:

Obsolete

Environmental & Export classification

RoHS Status:

RoHS non-compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

1 (Unlimited)

HTSUS:

8542.39.0001

SHARP

Under development



New product

PQ1Kxx3M2ZP Series Low Power-Loss Voltage Regulator

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

Features

- (1) Compact surface mount package(3.4 × 2.2 × 1.2 mm)
- (2) Output current : 300mA
- (3) Low power-loss
(Dropout voltage: MAX. 0.7 V at I_o=300 mA)
- (4) High ripple rejection(TYP.70 dB)
- (5) Built-in ON/OFF control function
- (6) Built-in overcurrent, overheat protection

Applications

- (1) CD-ROM drives
- (2) DVD-ROM drives
- (3) Digital Still Cameras

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
*1 Input voltage	V _{in}	9	V
*1 ON/OFF control terminal voltage	V _c	9	V
Output current	I _o	300	mA
*2 Power dissipation	P _d	400	mW
*3 Junction temperature	T _j	150	°C
Operating temperature	T _{opr}	-30 to +80	°C
Storage temperature	T _{stg}	-55 to +150	°C
Soldering temperature	T _{sol}	260(For 10s)	°C

(T_a=25°C)

- *1 All are open except GND and applicable terminals.
 *2 At surface-mounted condition
 *3 Overheat protection may operate at 125≤T_j≤150°C.

(Notice)

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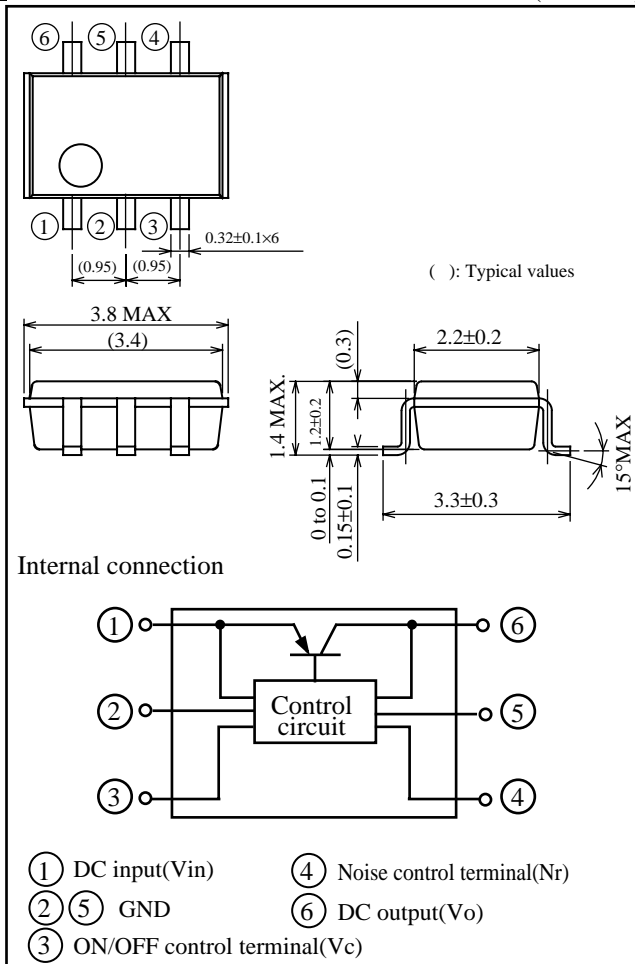
•Specifications are subject to change without notice for improvement.

(Internet)

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

Outline Dimensions

(Unit: mm)



SHARP**PQ1Kxx3M2ZP Series Low Power-Loss Voltage Regulator****Electrical Characteristics**(Unless otherwise specified, $V_{in}=V_o(\text{TYP.})+1.0\text{V}$, $V_c=1.8\text{V}$, $I_o=30\text{mA}$, $T_a=25^\circ\text{C}$)

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 300mA	-	35	160	mV
Line regulation	RegI	$V_{in}=V_o(\text{TYP.})+1\text{V}$ to $V_o(\text{TYP.})+6\text{V}(\text{MAX. } 9\text{V})$	-	3.0	20	mV
Temperature coefficient of output voltage	T_cV_o	$I_o=10\text{mA}$, $T_j=-25$ to $+75^\circ\text{C}$	-	0.05	-	$\text{mV}/^\circ\text{C}$
*4 Ripple rejection	RR	-	-	70	-	dB
Output noise voltage	$V_{no}(\text{rms})$	$10\text{Hz} < f < 100\text{kHz}$ $I_o=30\text{mA}$, $C_n=0.1\mu\text{F}$	-	30	-	μV
Dropout voltage	V_{i-o1}	$I_o=300\text{mA}$, *5	-	0.4	0.7	V
*6 ON-state voltage for control	$V_c(\text{on})$	-	1.8	-	-	V
ON-state current for control	$I_c(\text{on})$	$V_c=1.8\text{V}$	-	5	30	μA
OFF-state voltage for control	$V_c(\text{off})$	-	-	-	0.4	V
Quiescent current	I_q	$I_o=0\text{mA}$	-	-	500	μA
Output OFF-state dissipation current	I_{qs}	$V_c=0.2\text{V}$	-	-	1	μA

*4 Typical value at output voltage is 3.0V type.

*5 Dropout voltage when output voltage lowers 100mV from the voltage at $V_{in}=V_o+1\text{V}$.

*6 In case of opening control terminal ③, output voltage turns off.

Output Voltage Line-up $(V_{in}=V_o(\text{TYP.})+1.0\text{V}$, $V_c=1.8\text{V}$, $I_o=30\text{mA}$, $T_a=25^\circ\text{C}$)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*7 Output voltage	PQ1K213M2ZP	-	2.040	2.1	2.160	V
	PQ1K253M2ZP		2.440	2.5	2.560	
	PQ1K303M2ZP		2.940	3.0	3.060	
	PQ1K333M2ZP		3.234	3.3	3.366	
	PQ1K343M2ZP		3.332	3.4	3.468	
	PQ1K353M2ZP		3.430	3.5	3.570	
	PQ1K393M2ZP		3.822	3.9	3.978	
	PQ1K423M2ZP		4.166	4.2	4.284	
	PQ1K503M2ZP		4.900	5.0	5.100	

*7 : It is available for every 0.1V (1.3V to 5V).

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 - Industrial control
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 - Alarm equipment
 - Various safety devices, etc.
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