SHARP

PQ033ES1MXP
PQ050ES1MXP

Under development	
New product	●

Low Power-Loss Voltage Regulator

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

■ Features

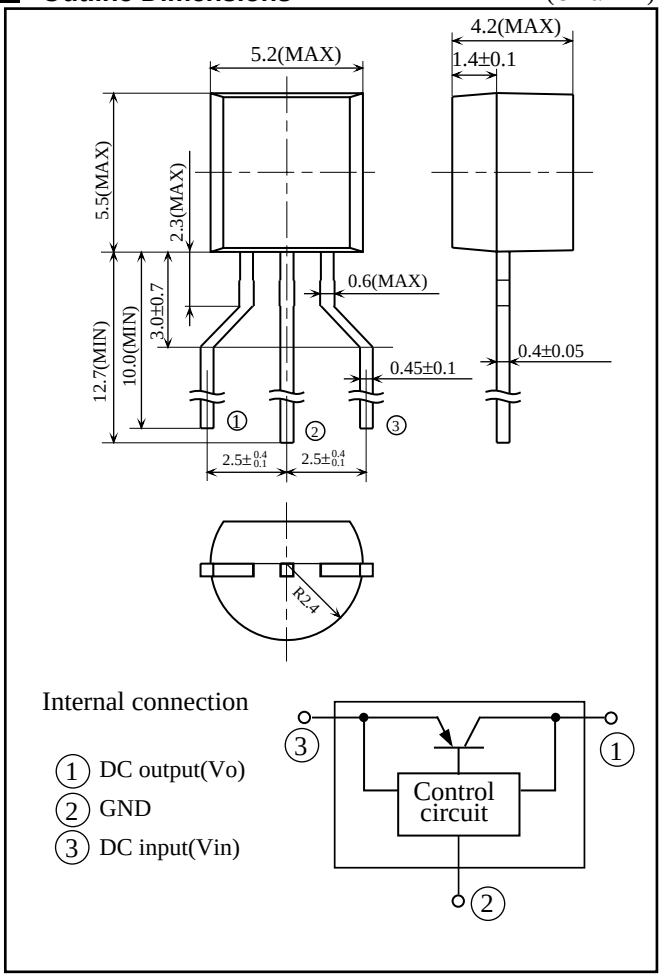
(1) Compact package : TO-92 type
(Size(mold part) 5.2 × 5.5 × 4.2 mm)
(2) Small current output : 100 mA(MAX.)
(3) Low consumption current :
Quiescent current Iq=MAX. 350 μA
(4) Low power-loss :
Dropout voltage : MAX. 0.26 V at Io=60 mA
Dropout voltage : MAX. 0.4 V at Io=150 mA
(5) Built-in overcurrent, overheat protection functions
(6) Taped package

■ Applications

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

■ Outline Dimensions

(Unit: mm)



■ Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
*1 Input voltage	Vin	16	V
Output current	Io	150	mA
*2 Power dissipation	Pd	520	mW
*3 Junction temperature	Tj	150	°C
Operating temperature	Topr	-30 to +80	°C
Storage temperature	Tstg	-55 to +150	°C
Soldering temperature	Tsol	260(For 10s)	°C

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

Electrical Characteristics

(Unless otherwise specified, Vin=Vo(TYP.)+1.0V, Io=30mA.Ta=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output voltage	Vo	-	Refer to the table below.			V
Load regulation	RegL1	Io=5mA to 60mA	-	10	50	mV
	RegL2	Io=5mA to 100mA	-	20	100	mV
	RegL3	Io=5mA to 150mA	-	30	160	mV
Line regulation	RegI	Vin=Vo(TYP.)+1V to Vo(TYP.)+6V	-	3.0	20	mV
Temperature coefficient of output voltage	TcVo	Io=10mA, Tj=-25 to +75°C	-	0.05	-	mV/°C
Ripple rejection	RR	-	-	55	-	dB
Dropout voltage	Vi-o1	Io=60mA, Vin=*4	-	0.11	0.26	V
	Vi-o2	Io=150mA, Vin=*4	-	0.2	0.4	V
Quiescent current	Iq	Io=0mA	-	170	350	μA

*4 Dropout voltage when output voltage lowers 0.1V from the voltage at Vin=Vo+1V.

Output Voltage Line-up

(Vin=Vo(TYP.)+1.0V, Io=30mA.Ta=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Output voltage	**PQ033ES1MXP**	V_O	–	3.234	3.3	3.366	V
	PQ050ES1MXP			4.900	5.0	5.100	

As of September 2002

NOTICE

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  (i) The devices in this publication are designed for use in general electronic equipment designs such as:
  --- Personal computers
  --- Office automation equipment
  --- Telecommunication equipment [terminal]
  --- Test and measurement equipment
  --- Industrial control
  --- Audio visual equipment
  --- Consumer electronics

  (ii) Measures such as fail-safe function and redundant design should be taken to ensure reliability and safety when SHARP devices are used for or in connection with equipment that requires higher reliability such as:
  --- Transportation control and safety equipment (i.e., aircraft, trains, automobiles, etc.)
  --- Traffic signals
  --- Gas leakage sensor breakers
  --- Alarm equipment
  --- Various safety devices, etc.

  (iii) SHARP devices shall not be used for or in connection with equipment that requires an extremely high level of reliability and safety such as:
  --- Space applications
  --- Telecommunication equipment [trunk lines]
  --- Nuclear power control equipment
  --- Medical and other life support equipment (e.g., scuba).

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