SHARP

Under development	●
New product	

PQ07VR5MAZ Low Power-loss Voltage Regulator

Low Power-loss Voltage Regulator with Reset Function in Detecting Input Voltage Drop

■ General Description

Sharp's **PQ07VR5MAZ** is a compact, surface mount, 0.5 A output type low power-loss voltage regulator with reset signal output function in detecting input voltage drop.
It is suitable for malfunction prevention of microcomputers in various electronic equipment such as AV, OA equipment when it is turned-on or it is in error of operation.

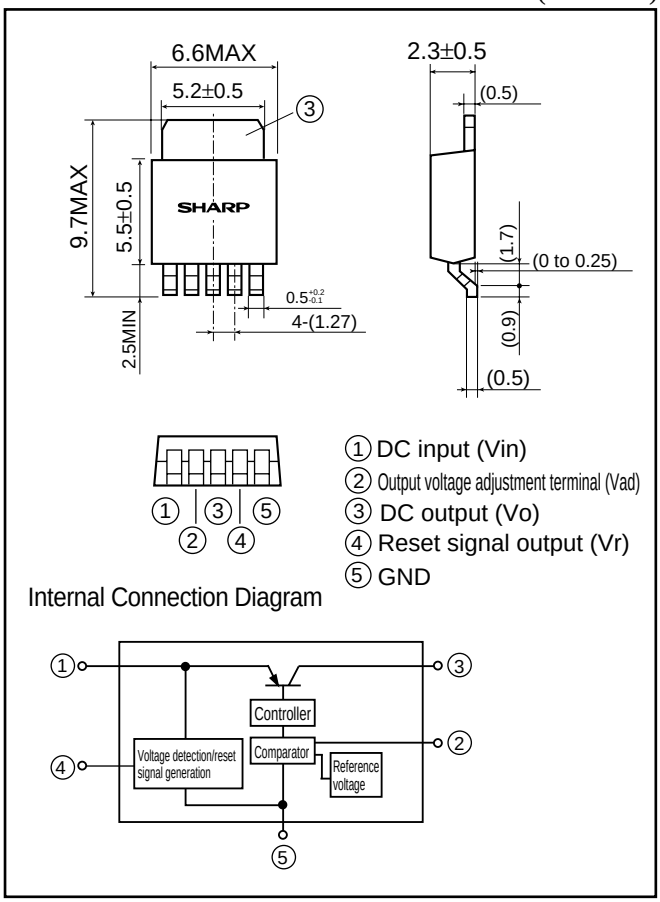
■ Features

(1) Reset signal generating function.
(The reset detection voltage can be custom-ordered in the range of 3.5 V to 4.5 V.)
(2) Low power-loss
(Dropout voltage : Max. 0.5 V at Io=0.3 A)
(3) Compact, surface mount package.
(Equivalent to SC-63.)
(4) Output voltage variable type (1.5 V to 7.0 V)
(5) Overcurrent protection and overheat protection function.
(6) Tape-packaged products and sleeve-packaged products are available.

■ Applications

(1) Power supplies of AV, OA equipment, and various electronic equipment
(2) CD-ROM drives and CD-R drives
(3) DVD-ROM drives

■ Outline Dimensions (Unit: mm)



■ Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Rating	Unit
*1 Input voltage	V_{IN}	10	V
Output voltage adjustment terminal voltage	V_{adj}	7	V
*1 Reset output voltage	V_r	10	V
Output current	I_O	0.5	A
Reset output current	I_r	5	mA
Power dissipation (no heat sink)	P_D	0.8	W
Junction temperature	T_j	150	˚C
*2 Operating temperature	T_{opr}	–20 to +80	˚C
Storage temperature	T_{stg}	–40 to +150	˚C
Soldering temperature	T_{sol}	260(For 10s)	˚C

*1 All are open except GND and applicable terminals.
*2 Overheat protection may operate at T = 125 to 150˚C.

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■ Electrical Characteristics

(Vin = 5V, Vo = 3 V (R1 = 1 kΩ) and Io = 300 mA unless otherwise specified) (Ta=25˚C)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Output voltage	V_o	–	1.5	–	7.0	V
Load regulation	R_{egL}	Io=5mA to 0.5A	–	0.1	2.0	%
Line regulation	R_{egI}	Vin=5 to 7V,Io=5mA	–	0.5	2.5	%
Ripple rejection	RR	–	45	60	–	dB
Reference voltage	V_{ref}	–	1.22	1.245	1.27	V
Temperature coefficient of reference voltage	T_cV_{ref}	Tj=0 to 125˚C,Io=5mA	–	±0.01	–	%/˚C
Dropout voltage	V_{i-o}	Vin=3.4V,Io=0.3A	–	–	0.5	V
Quiesent current	I_q	Io=0A	–	–	5	mA
Reset threshold voltage	V_{ri}	Vr≦0.8V,*4,Rr=10kΩ	4.116	4.2	4.284	V
"L" reset output voltage	V_{rl}	Ir=5mA,Io=5mA	–	–	0.8	V
Hysteresis voltage	ΔV_{ri}	Io=5mA	50	150	200	mV

*4 Output voltage when Vr becomes Low, lowering input voltage.

■ Application Example to CD-ROM