

PQ035ZN1HZPH

Low Voltage Operation, Compact Surface Mount type Low Power-Loss Voltage Regulator

Features

1. Low voltage output
($V_O=0.8$ to $3.5V$)
2. Low voltage operation: $V_{IN(MIN)}=1.7V$
3. Output current : 1.5A
4. Built-in overcurrent and overheat protection functions
5. Correspond to flow soldering
6. Ceramic capacitor compatible
7. RoHS directive compliant

Applications

1. AV equipment
2. OA equipment

Absolute Maximum Ratings

($T_a=25^\circ C$)

Parameter	Symbol	Rating	Unit
*1 Input voltage	V_{IN}	5.5	V
*1 Bias supply voltage	V_B	7	V
*1 Output adjustment pin voltage	V_{adj}	5	V
Output current	I_O	1.5	A
*2 Power dissipation	P_D	8	W
*3 Junction temperature	T_j	150	$^\circ C$
Operating temperature	T_{opr}	-40 to +85	$^\circ C$
Storage temperature	T_{stg}	-40 to +150	$^\circ C$
Soldering temperature	T_{sol}	260(10s)	$^\circ C$

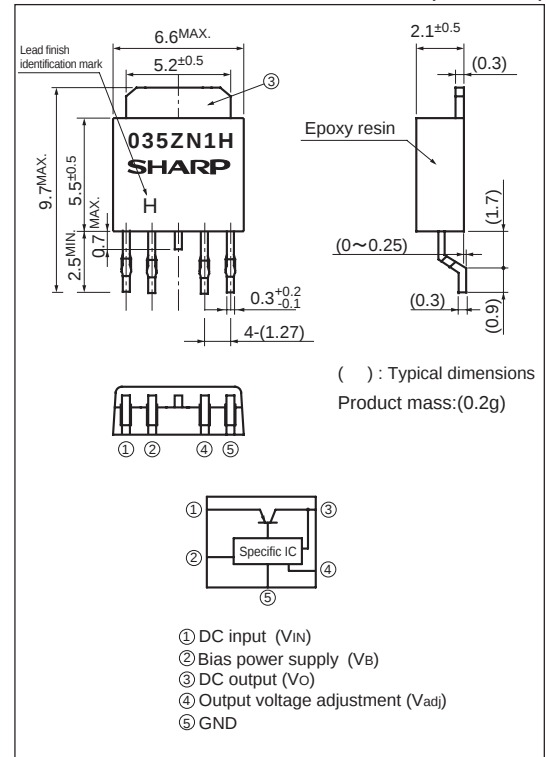
*1 All are open except GND and applicable terminals.

*2 P_D : With infinite heat sink

*3 There is case that over heat protection function operates at the temperature $T_j=125^\circ C$ to $150^\circ C$, this item cannot be used in this temperature range.

Outline Dimensions

(Unit : mm)



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Electrical Characteristics

Unless otherwise specified, condition shall be $V_{IN}=1.8V$, $V_B=3.3V$, $V_O=1.2V$ ($R_1=1k\Omega$), $I_O=0.5A$, $T_a=25^\circ C$

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input voltage	V_{IN}	$0.8V \leq V_O \leq 1.2V$	1.7	-	5.5	V
		$1.2V < V_O \leq 3.5V$	$V_O+0.5$	-	5.5	V
Bias supply voltage	V_B	-	2.35	-	7.0	V
Output voltage	V_O	-	0.8	-	3.5	V
Load regulation	Reg_L	$I_O=5mA$ to $1.5A$	-	0.3	1.0	%
Line regulation	Reg_I	$V_{IN}=1.7V$ to $5.5V$, $V_B=2.35$ to $7V$, $I_O=5mA$	-	0.3	1.0	%
Reference voltage	V_{ref}	-	0.57	0.6	0.63	V
Temperature coefficient of reference voltage	$T_C V_{ref}$	$T_j=0$ to $+125^\circ C$, $I_O=5mA$	-	± 0.5	-	%
Ripple rejection	RR1	Refer to Fig.2	-	60	-	dB
	RR2	Refer to Fig.3	-	53	-	dB
Bias power supply input current	I_B	$I_O=0A$	-	1.5	2	mA

Fig.1 Test Circuit

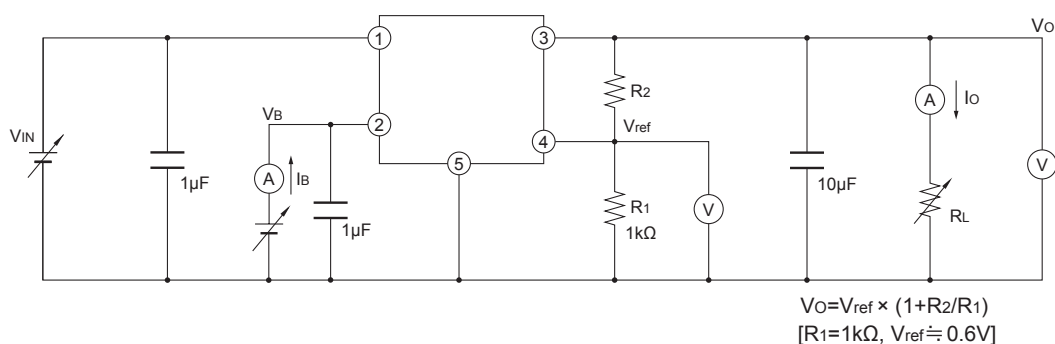


Fig.2 Test Circuit for Ripple Rejection (1)

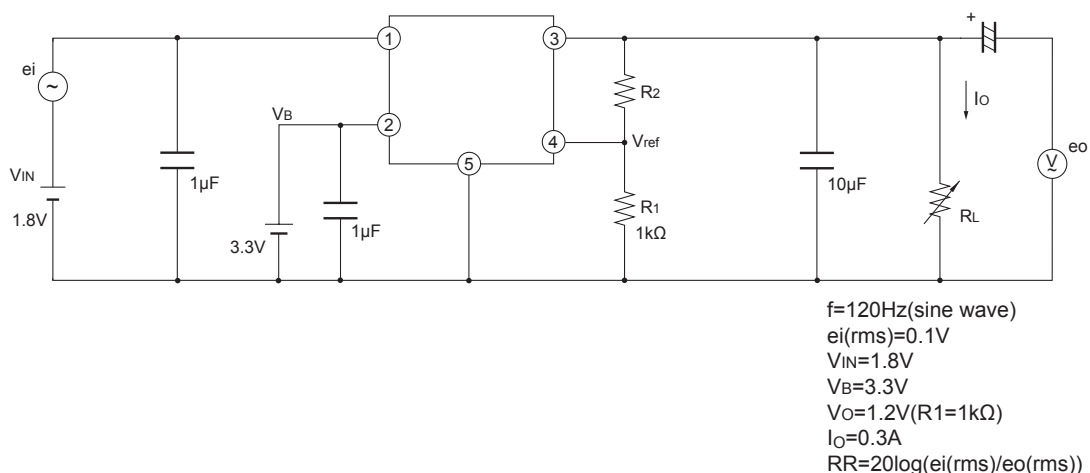


Fig.3 Test Circuit for Ripple Rejection (2)

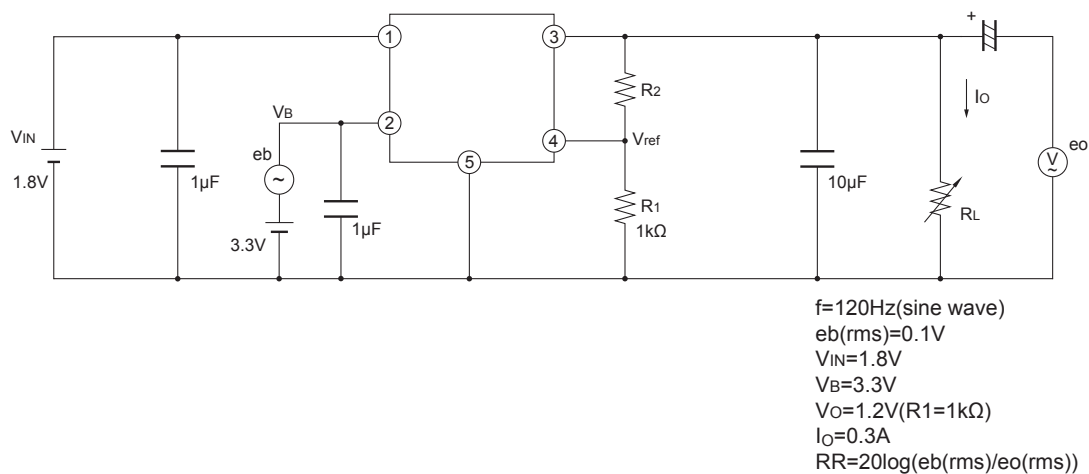


Fig.4 Power Dissipation vs. Ambient Temperature

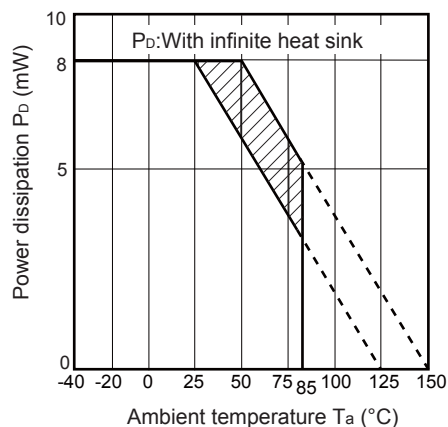


Fig.5 Overcurrent Protection Characteristics

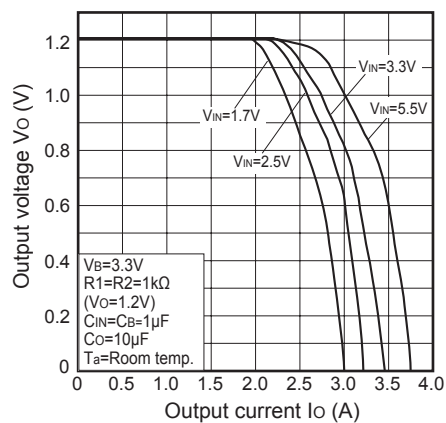


Fig.6 Output Voltage Adjustment Characteristics(Typical Value)

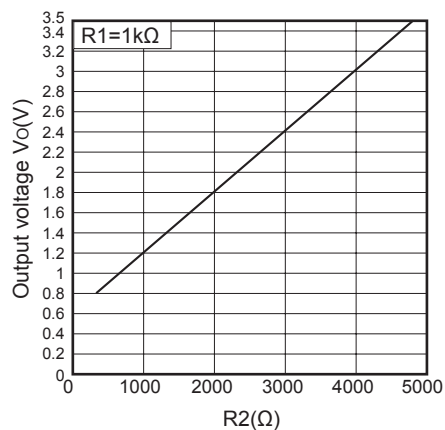
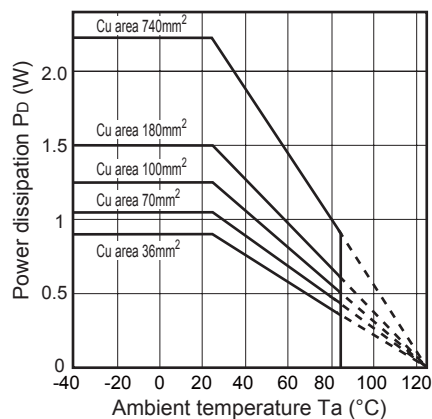
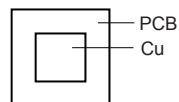


Fig.7 Power Dissipation vs. Ambient Temperature (Typical Value)



Mounting PCB



Material : Glass-cloth epoxy resin
Size : 50×50×1.6mm
Cu thickness : 35μm

Setting of Output Voltage

Output voltage is able to set (0.8V to 3.5V) when resistors R_1 , R_2 are attached to ③, ④, ⑤ terminals. As for the external resistors to set output voltage, refer to the following figure and Fig.6.

