PQ3DF53

3.3V Output, High Output Current (5A) Type Low Power-loss Voltage Regulator

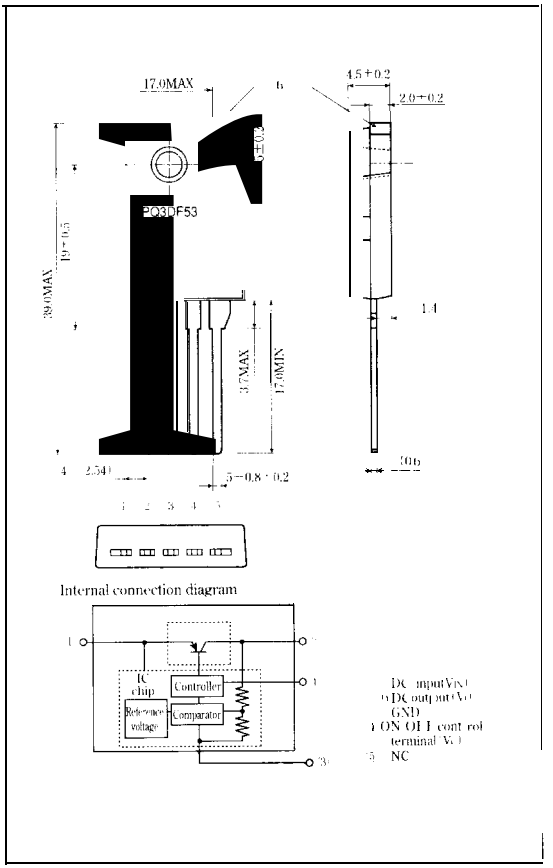
■ Features

- TO-3P package
- Low power-loss (Dropout voltage: MAX. 0.5V at Io 5A)
- 3.3V output
- High output current (5A)
- High-precision output voltage type (output voltage precision : ±2.5%)
- Built-in ON/OFF control function
- Built-in overcurrent protection, overheat protection function

■ Applications

- Power supplies for various electronic equipment such as personal computers

■ Outline Dimensions (Unit: mm)



■ Absolute Maximum Ratinas (Ta=25°C)

Parameter	Symbol	Rating	Unit
*1 Input voltage	V_{IN}	10	v
*1 ON/OFF control terminal voltage	V_C	10	v
output current	I_O	5.0	A
Power dissipation (No heat sink)	P_{D1}	2.2	w
Power dissipation (With infinite heat sink)	P_{D2}	60	w
*2 Junction temperature	T_j	150	C
Operating temperature	T_{opr}	-20 tn + 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 125≦Tj≦150 (

Please refer to the chapter "Handling Precautions

■ Electrical Characteristics

(Unless otherwise specified, conditions shall be V_{IN}=5V, I_O=2.5A T_a=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
output voltage	V_O		3.218	3.3	3.382	V
Load regulation	$R_{eg}L$	I_O=5mA to 5.0A		0.5	2.0	%
Line regulation	$R_{eg}I$	V_{IN}=4 to 10V		0.5	2.5	%
Temperature coefficient of output voltage	T_cV_O	T_j=0 to 125°C		±0.02		%/°C
Ripple rejection	RR		45	55		dB
Dropout voltage	V_{I-O}	※3, I_O=5.0A			0.5	V
※1 ON-state voltage for control	$V_{C(ON)}$		2.0			V
ON-state current for control	$I_{C(ON)}$	V_C=2.7V			20	μA
OFF-state voltage for control	$V_{C(OFF)}$				0.8	V
OFF-state current for control	$I_{C(OFF)}$	V_C=0.4V			-0.4	MA
Quiescent current	I_q	I_O=0A	—	—	17	mA

※3 Input voltage shall be the value when output voltage is 95% in comparison with the initial value.

※4 In case of opening control terminal 4, output voltage turns on.

Fig.1 Test Circuit

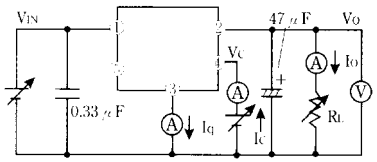


Fig.2 Test Circuit for Ripple Rejection

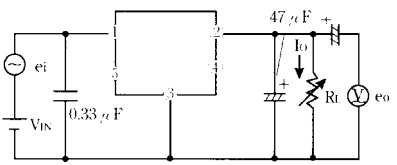
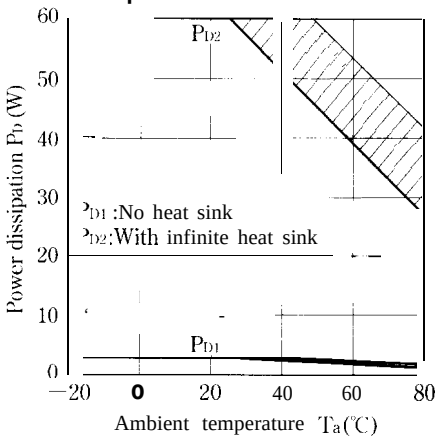


Fig.3 Power Dissipation vs. Ambient Temperature



Note) Oblique line portion : Overheat protection may operate in this area.

Fig.4 Overcurrent Protection Characteristics (Typical Value)

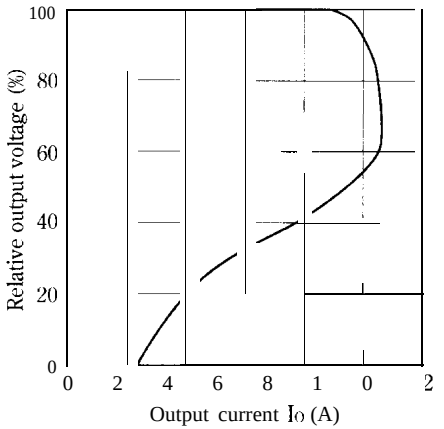


Fig.5 Output Voltage Deviation vs. Junction Temperature

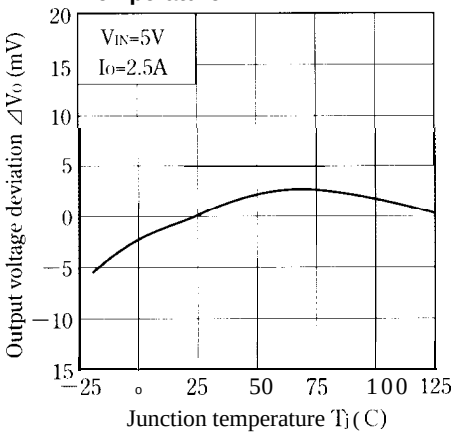


Fig.6 Output Voltage vs. Input Voltage

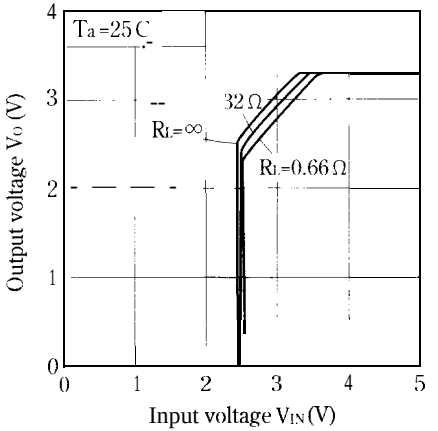


Fig.7 Circuit Operating Current vs. Input Voltage

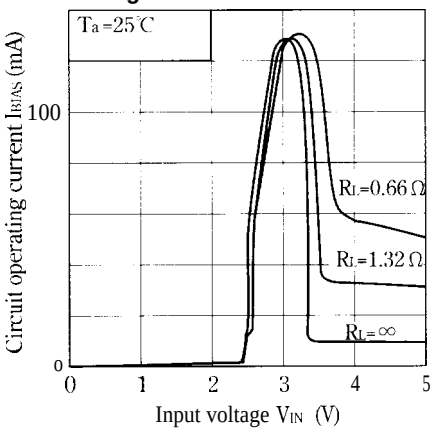


Fig.8 Dropout Voltage vs. Junction Temperature

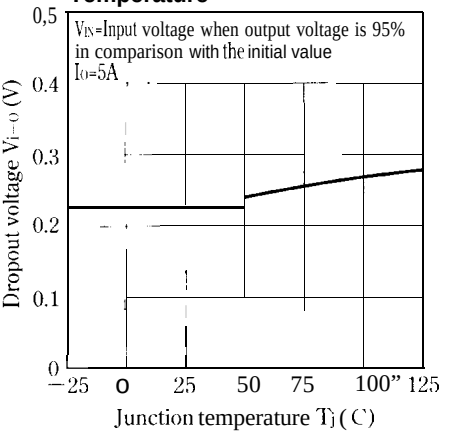


Fig.9 Quiescent Current vs. Junction Temperature

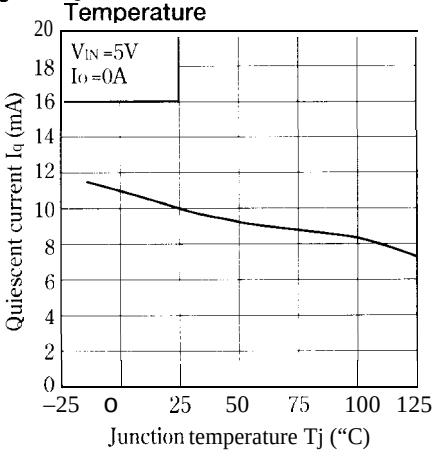


Fig.10 Ripple Rejection vs. Input Ripple Frequency

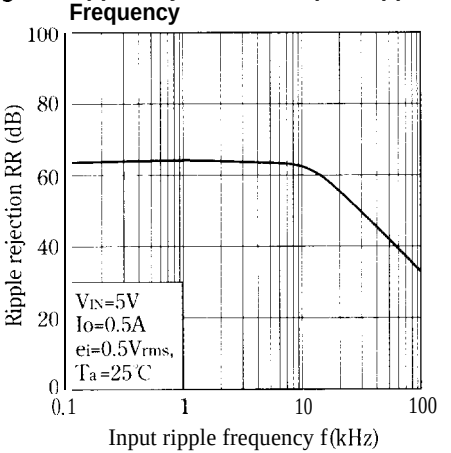
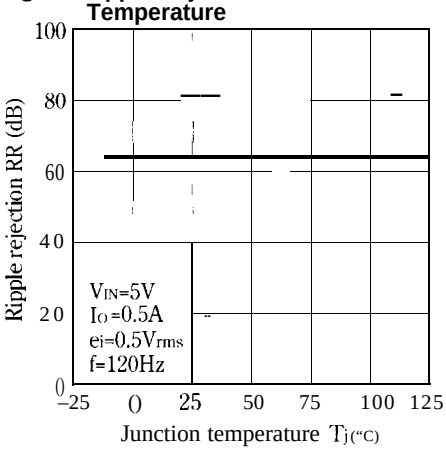


Fig.10 Ripple Rejection vs. Junction Temperature



■ Typical Applications