

# PQ1PF3/PQ2PF3 Primary Regulator for Switching Power Supply

## FEATURES

- Five-terminal lead forming package (equivalent to TO-220)
- Built-in oscillation circuit (oscillation frequency: 100 kHz)
- Improved efficiency at low load, switching the oscillation frequency by external control signal
- Output for power supply 10 W class
- Built-in overheat protection, overcurrent protection, low voltage malfunction prevention function

## DESCRIPTION

SHARP's PQ1PF3/PQ2PF3 are primary regulators for switching power supply. It reduces parts count and power loss of the switching section, by integrating a power MOS-FET and control IC into a single chip.

## ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING		UNIT
		PQ1PF3	PQ2PF3	
Drain-GND (source) voltage	$V_{DS}$	50V	8V	
Drain current	D	2A	2A	
Power supply voltage <sup>1</sup>	$V_{CC}$	3V		
FB terminal input voltage <sup>2</sup>	$V_{FB}$	4V		
CA terminal input current	CA	2A		mA
Power dissipation <sup>3</sup>	$P_{D1}$	1W		
	$P_{D2}$	1W		
Junction temperature <sup>4</sup>	$T_J$	16		°C
Operating temperature	$T_{Op}$	-20 to +8		°C
Storage temperature	$T_{Stg}$	-40 to +15		°C
Soldering temperature	$T_{So}$	260 (for 10s)		°C

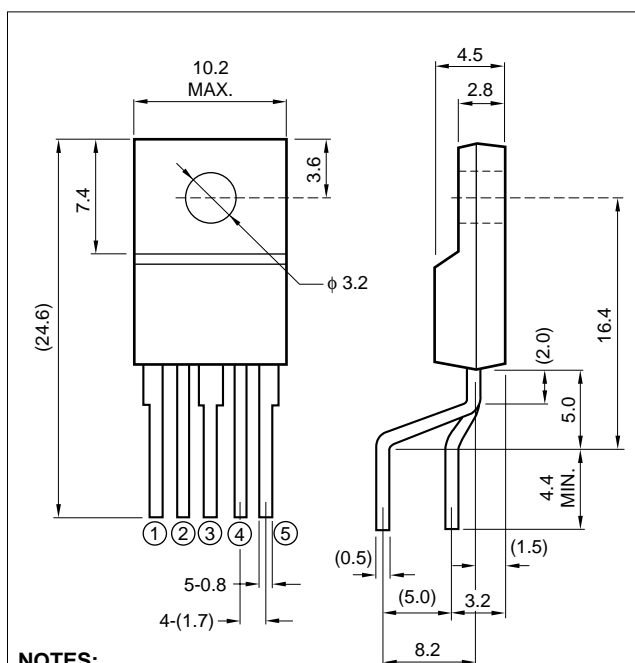
## NOTES:

1. Voltage between  $V_{CC}$  terminal and GND terminal
2. Voltage between FB terminal and GND terminal
3.  $P_{D1}$ : No heat sink,  $P_{D2}$ : With infinite heat sink
4. Overheat protection may operate at  $T_J = 125^\circ\text{C}$  to  $150^\circ\text{C}$
5.  $T_A = 25^\circ\text{C}$

The information for this document is from the Tec. PW970501, issued in 1997.

**APPLICATIONS:**  
DVD  
Notebook PC  
Set Top Box  
POS

## OUTLINE DIMENSIONS



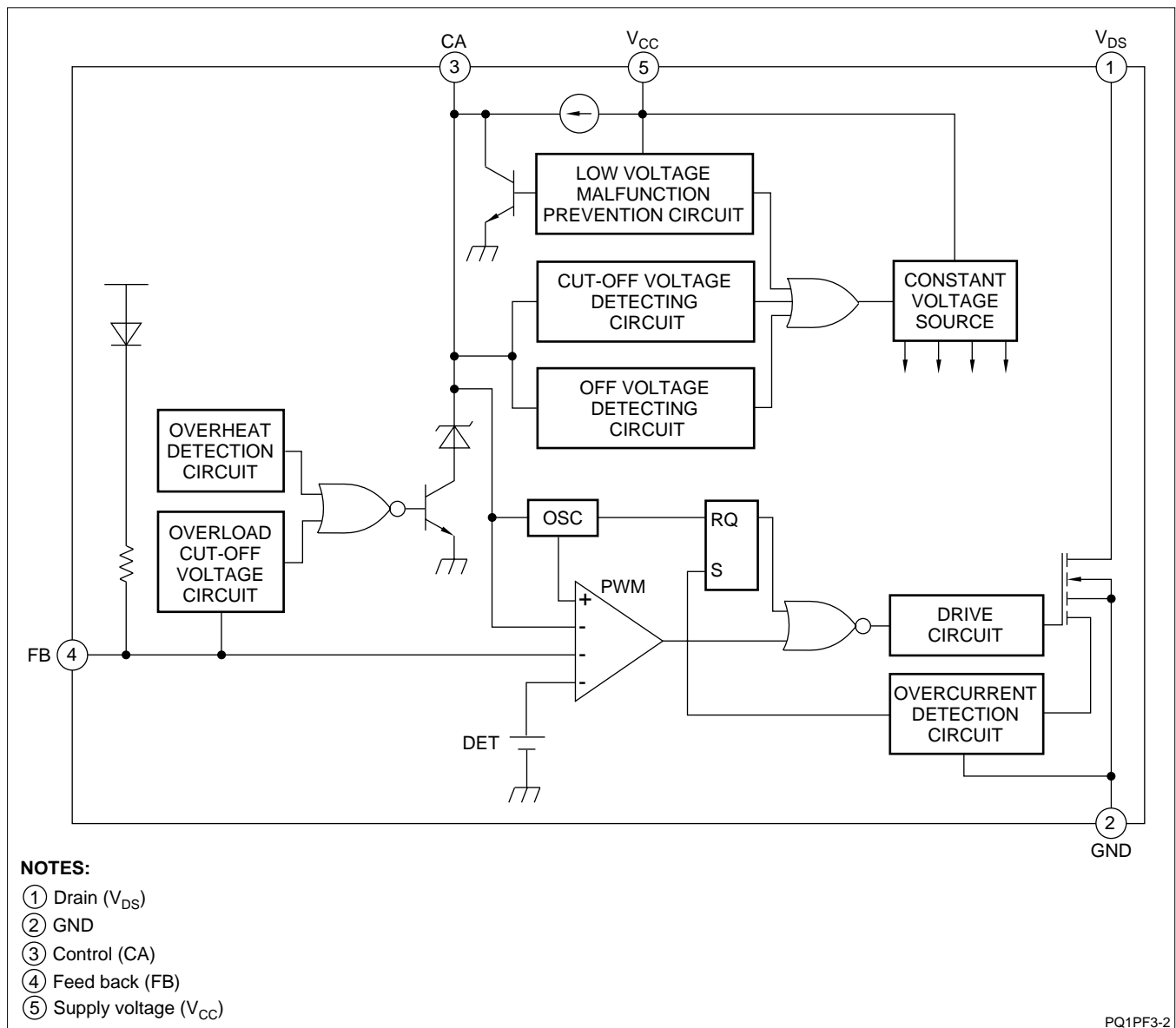
## NOTES:

- ① Drain ( $V_{DS}$ )
- ② GND
- ③ Control (CA)
- ④ Feed back (FB)
- ⑤ Supply voltage ( $V_{CC}$ )

Dimensions are in mm.

PQ1PF3-1

## INTERNAL CONNECTION



## APPLICATION CIRCUIT (SWITCHING POWER SUPPLY)

