

IC for System Reset Monolithic IC PST70XX Series

May 21, 2002

Outline

This IC is a low-reset type system reset IC and in a variety of CPU systems and other logic systems, to detect supply voltage and reset the system accurately when the power is turned on or interrupted. It includes a high-precision voltage detection function with ultra-low current consumption and is ideal for voltage check circuits for products using a battery.

Features

- | | |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| 1. High-precision voltage detection | $V_s \pm 2\%$ max. |
| 2. Ultra-low current consumption | $I_{CCH} = 2\mu A$ typ. $I_{CCL} = 3\mu A$ typ. |
| 3. Low operating limit voltage | 0.65V typ. |
| 4. Hysteresis voltage provided for detection voltage | 50mV typ. |
| 5. Large output current during power-on | 30mA typ. |
| 6. Detection voltage can be selected as desired within a range of 1.9 to 4.6V by 0.1V step, as indicated below. | |

PST70XX



(Example: for 4.6V PST7046)

Packages

MMP-3A (PST70□□M)

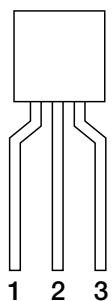
TO-92A (PST70□□)

*The box represents a rank of detection voltage.

Applications

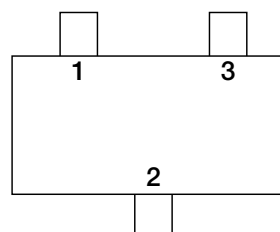
1. Reset circuits for microcomputers, CPUs and MPUs
2. Reset circuits for logic circuits
3. Battery voltage check circuits
4. Back-up power supply switching circuits
5. Level detection circuits

Pin Assignment



TO-92A

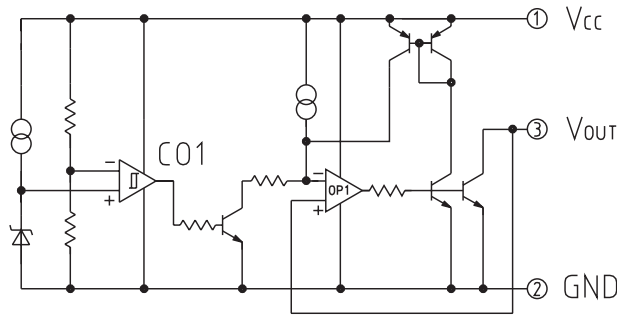
1	V _{CC}
2	GND
3	V _{OUT}



MMP-3A
(TOP VIEW)

1	V _{CC}
2	GND
3	V _{OUT}

Equivalent Circuit Diagram



Absolute Maximum Ratings (Ta=25°C)

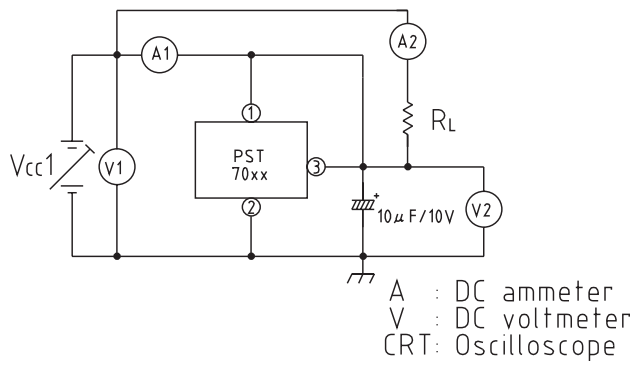
Item	Symbol	Rating	Units
Storage temperature	T _{STG}	-40~+125	°C
Operating temperature	T _{OPR}	-20~+75	°C
Power supply voltage	V _{CC} max.	-0.3~+10	V
Allowable loss	P _d	200 (MMP-3A) 300 (TO-92A)	mW

Electrical Characteristics (Ta=25°C) (Except where noted otherwise, resistance unit is Ω)

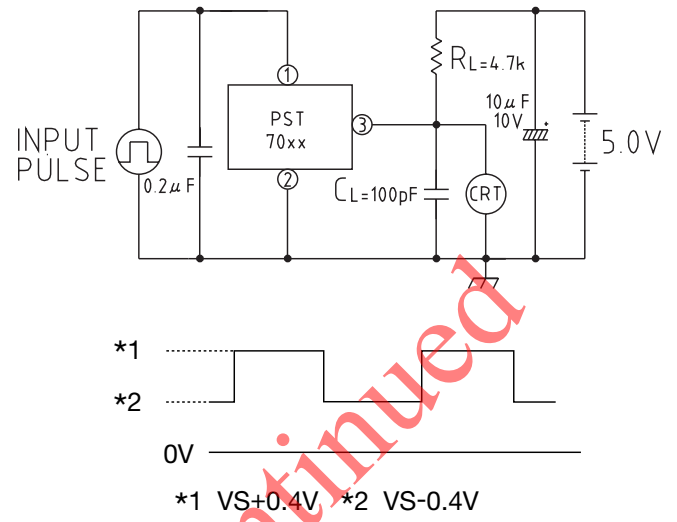
Item	Symbol	Measurement conditions	Measurement circuit	Min.	Typ.	Max.	Units
Detection voltage	V _s	R _L =470 V _{CC} =H→L	1	V _s typ. -2%	4.6~ 1.9 (0.1V Step)	V _s typ. +2%	V
Hysteresis voltage	ΔV _s	R _L =470 V _{CC} =L→H→L	1	30	50	100	mV
Detection voltage temperature coefficient	V _s /ΔT	R _L =470 Ta=-20~+75°C	1		±0.01		%/°C
Low-level output voltage	V _{OL}	V _{CC} =V _s min. -0.05V R _L =470	1		0.2	0.4	V
Output leakage current	I _{OH}	V _{CC} =10.0V	1			0.1	μA
Circuit current while on	I _{CC1}	V _{CC} =V _s min. -0.05V R _L =∞	1		3.0	6.0	μA
Circuit current while off	I _{CC2}	V _{CC} =V _s typ. /0.85V R _L =∞	1		2.0	4.0	μA
"H"transport delay time	t _{PLH}	R _L =4.7k C _L =100pF	7046~24	2	5	30	μs
			7023~19	2	10	30	
"L"transport delay time	t _{PHL}	R _L =4.7k C _L =100pF	7046~24	2	30	70	μs
			7023~19	2	70	150	
Operation limit voltage	V _{OPL}	R _L =4.7k V _{OL} ≤ 0.4V	1		0.65	0.85	V
Output current while on 1	I _{OL1}	V _{CC} =V _s min. -0.05V R _L =0	1	8	30		mA
Output current while on 2	I _{OL2}	V _{CC} =V _s min. -0.05V R _L =0 Ta=-20°C~+75°C	1	5			mA

Measuring Circuit

[1]



[2]



Products to be discontinued