System Reset
Monolithic IC PST70XX Series

Outline

These low reset type ICs function in a variety of CPU systems and other logic systems, to detect power supply voltage and reset the system accurately when power is turned on or interrupted.
They are ideal for use in battery check circuits for products using batteries, as they have ultra-low current consumption and a high precision voltage detection function.

Features

1. High precision voltage detection — Vs±2% max.
2. Ultra-low current consumption — I_{CCH}=2μA typ. I_{CCL}=3μA typ.
3. Low operating limit voltage — 0.65V typ.
4. Hysteresis voltage provided in detection voltage — 50mV typ.
5. Output current high for ON — 30mA typ.
6. Detection voltage can be selected as desired within a range of 1.9V~4.6V in 0.1V steps, as indicated below.

PST70XX
└┘———— Detection voltage value

(Example: for 4.6V ..... PST7046)

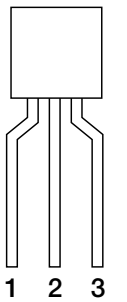
Package

MMP-3A (PST70××M)
TO-92A (PST70××)

Applications

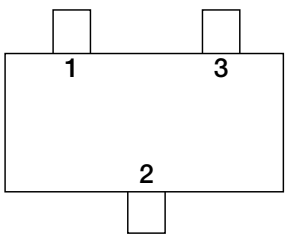
1. Reset circuits in microcomputers, CPUs and MPUs.
2. Logic circuit reset circuits.
3. Battery voltage check circuits.
4. Back-up power supply switching circuits.
5. Level detection circuits.

Pin Assignment



TO-92A

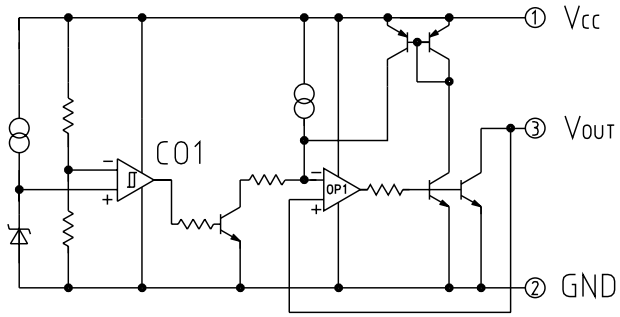
1	V_{CC}
2	GND
3	V_{OUT}



MMP-3A
(TOP VIEW)

1	V_{CC}
2	GND
3	V_{OUT}

Equivalent Circuit Diagram



Absolute Maximum Ratings (Ta=25°C)

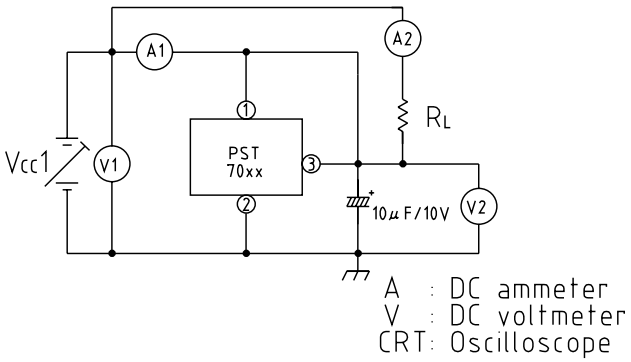
Item	Symbol	Rating	Units
Storage temperature	Tstg	−40~+125	°C
Operating temperature	Topr	−20~+75	°C
Power supply voltage	Vcc max.	−0.3~+10	V
Allowable loss	Pd	200 (MMP-3A) 300 (TO-92A)	mW

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

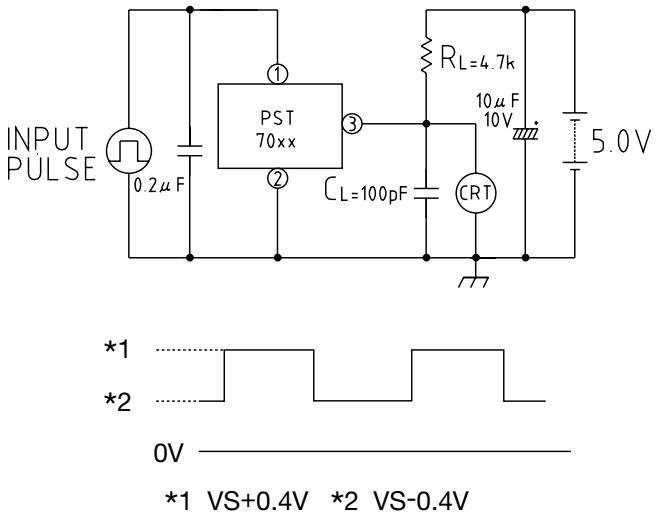
Item	Symbol	Measurement conditions		Measurement circuit	Min.	Typ.	Max.	Units
Detection voltage	Vs	RL=470 Vcc=H→L		1	Vs typ. −2%	4.6~1.9 (0.1V Step)	Vs typ. +2%	V
Hysteresis voltage	⊿Vs	RL=470 Vcc=L→H→L		1	30	50	100	mV
Detection voltage temperature coefficient	Vs/⊿T	RL=470 Ta=−20~+75°C		1		±0.01		%/°C
Low-level output voltage	VOL	Vcc=Vs min. −0.05V RL=470		1		0.2	0.4	V
Output leakage current	IOH	Vcc=10.0V		1			0.1	μA
Circuit current while on	ICCL	Vcc=Vs min. −0.05V RL=∞		1		3.0	6.0	μA
Circuit current while off	ICCH	Vcc=Vs typ. /0.85V RL=∞		1		2.0	4.0	μA
"H"transport delay time	tPLH	RL=4.7k	7046~24	2		5	30	μs
		CL=100pF	7023~19	2		10	30	
"L"transport delay time	tPHL	RL=4.7k	7046~24	2		30	70	μs
		CL=100pF	7023~19	2		70	150	
Operation limit voltage	VOPL	RL=4.7k VOL ≦ 0.4V		1		0.65	0.85	V
Output current while on 1	IOL1	Vcc=Vs min. −0.05V RL=0		1	8	30		mA
Output current while on 2	IOL2	Vcc=Vs min. −0.05V RL=0 Ta=−20°C~+75°C		1	5			mA

Measuring Circuit

[1]



[2]



*1 VS+0.4V *2 VS-0.4V