

Description

- The S71xx prevents the error of system from supply voltage below normal voltage level at the time the power on and instantaneous power off in systems.

Features

- Current Consumption is Low ($I_{CCL}=300 \mu A$ Typ. $I_{CCH}=30 \mu A$ Typ.)
- Resetting Output Minimum Guarantee Voltage is Low (0.8V Typ.)
- Hysteresis Voltage is Provided (50 mV Typ.)

Applications

- As Control Circuit of Battery-Backed Memory
- As Measure Against Erroneous Operations at Power On-Off
- As Resetting Function for the CPU-Mounted Equipment --- PC, Printer, VTR, Fax, C-TV etc.
- As Measure Against System Runaway at Instantaneous Break of Power Supply etc.

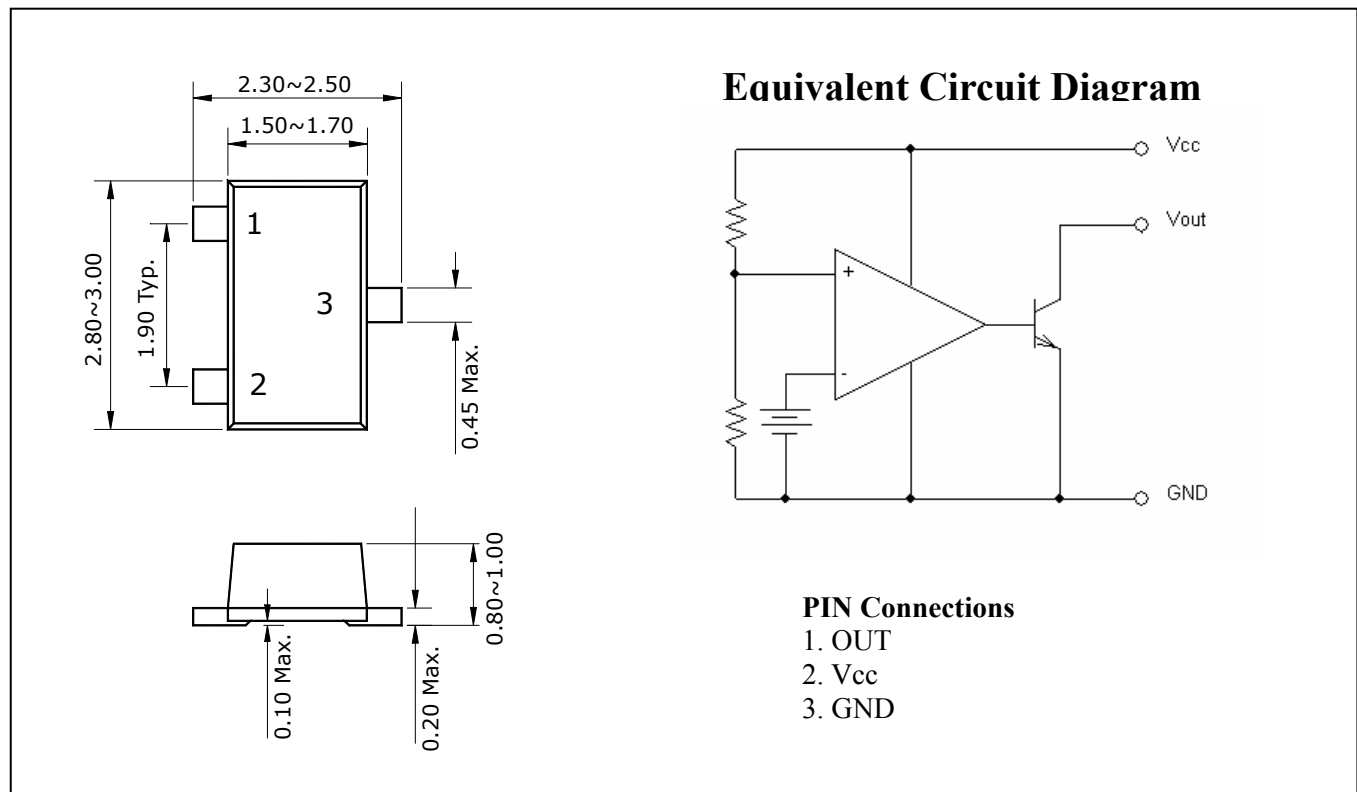
Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| S71xxSF | 7□□ | SOT-23F |

□□: Detecting Voltage Code

Outline Dimensions

Unit : mm



Maximum ratings

(Ta=25°C)

| Characteristic | Symbol | Ratings | Unit |
|-----------------------------|------------------|------------|------|
| Supply Voltage | V _{CC} | -0.3 ~ +15 | V |
| Power Dissipation | P _D * | 300 | mW |
| Output Voltage | V _{OUT} | -0.3 ~ +15 | V |
| Operating Temperature Range | T _{OPR} | -30 ~ +75 | °C |
| Storage Temperature Range | T _{STG} | -55 ~ +150 | °C |

* With PCB(8×8 mmCopper Area) at Glass Epoxy Board (t=1.7 mm, Area; 20×20 mm)

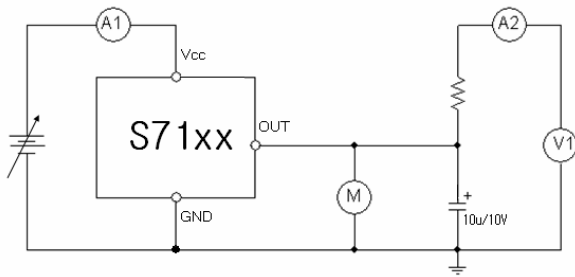
Electrical Characteristics

(V_{CC}=5V, Ta=25°C)

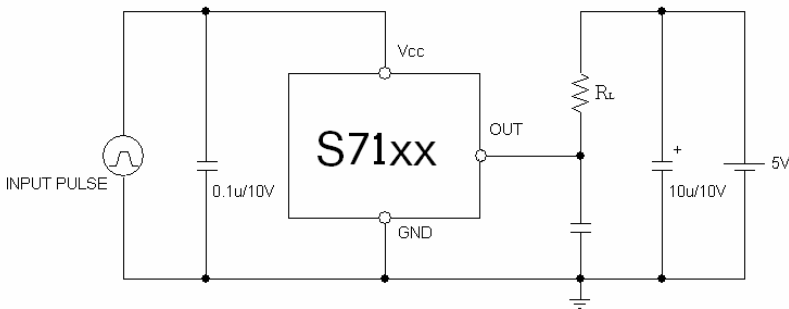
| Characteristic | Symbol | Test Circuit | Test Condition | Min. | Typ. | Max. | Unit | |
|--|----------------------|--------------|---|---------|-------|------|------|---|
| Detecting Voltage | V _S | 1 | R _L =200Ω V _{CC} =H→L V _{OL} ≤0.4V | S7145SF | 4.35 | 4.5 | 4.65 | V |
| | | | | S7142SF | 4.05 | 4.2 | 4.35 | |
| | | | | S7139SF | 3.75 | 3.9 | 4.05 | |
| | | | | S7136SF | 3.45 | 3.6 | 3.75 | |
| | | | | S7133SF | 3.15 | 3.3 | 3.45 | |
| | | | | S7131SF | 2.95 | 3.1 | 3.25 | |
| | | | | S7129SF | 2.75 | 2.9 | 3.05 | |
| | | | | S7127SF | 2.55 | 2.7 | 2.85 | |
| | | | | S7125SF | 2.35 | 2.5 | 2.65 | |
| S7123SF | 2.15 | 2.3 | 2.45 | | | | | |
| Hysteresis Voltage | Δ V _S | 1 | R _L =200Ω, V _{CC} =L→H→L | 30 | 50 | 100 | mV | |
| Temperature Coefficient of Detecting Voltage | V _S / Δ T | 1 | R _L =200Ω, Ta= -30 ~ +75 °C | - | ±0.01 | - | %/°C | |
| Low Level Output voltage | V _{OL} | 1 | R _L =200Ω, V _{CC} =V _S Min | - | - | 0.4 | V | |
| Leakage Current When OFF | I _{LEAK} | 1 | V _{CC} =15V, R _L =200Ω | - | - | 0.1 | μA | |
| Circuit current at ON | I _{CCL} | 1 | V _{CC} =V _S Min | - | 300 | 500 | μA | |
| Circuit current at OFF | I _{CCH} | 1 | V _{CC} =V _S Max +0.1V | - | 30 | 50 | μA | |
| Threshold operating Voltage | V _{OPR} | 1 | R _L =200Ω, V _{OL} ≤0.4V | - | 0.8 | 1.6 | V | |
| Output Current at ON I | I _{OL I} | 1 | R _L =0Ω, V _{CC} =V _S Min - 0.05V | 20 | - | - | mA | |
| Output Current at ON II | I _{OL II} | 1 | R _L =0Ω, V _{CC} =V _S Min - 0.05V Ta= -30 ~ +75 °C | 16 | - | - | mA | |
| L→H Transmission delay time | t _{PLH} | 2 | R _L =1.0 kΩ, C _L =100 pF | - | 15 | - | μs | |
| H→L Transmission delay time | t _{PHL} | 2 | R _L =1.0 kΩ, C _L =100 pF | - | 10 | - | μs | |

V_S: Standard Detection Voltage

Test Circuit 1

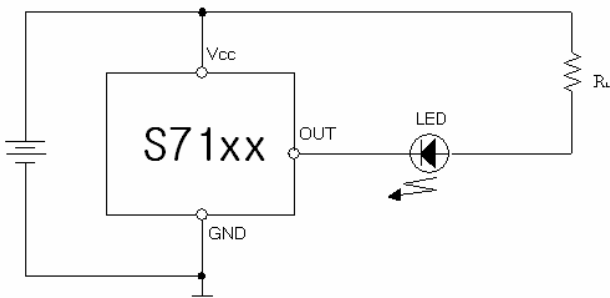


Test Circuit 2



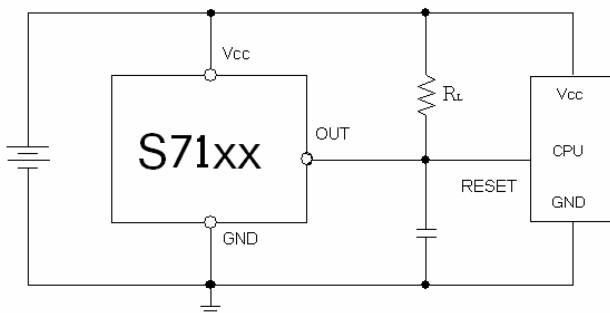
Application Circuit

(1) Battery Low Indicator



Note 1. : Connecting of LED and R2 obtains a voltage drop indicator.

(2) Resetting for CPU



Electrical Characteristic Curves

Fig. 1 $V_{OUT} - V_{CC}$

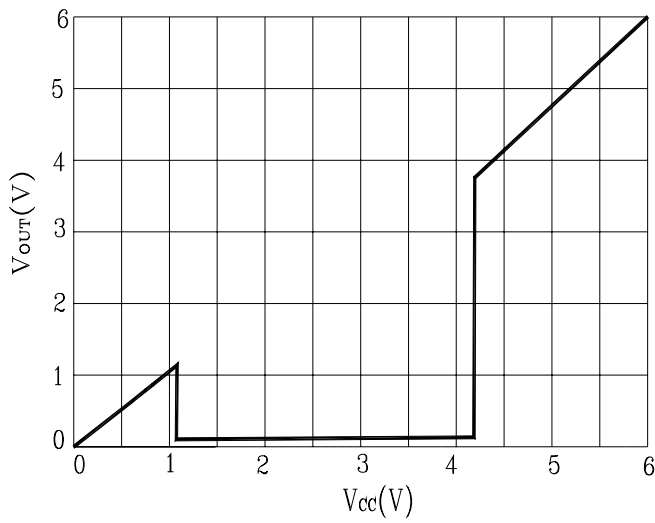


Fig. 2 $I_{CC} - V_{CC}$

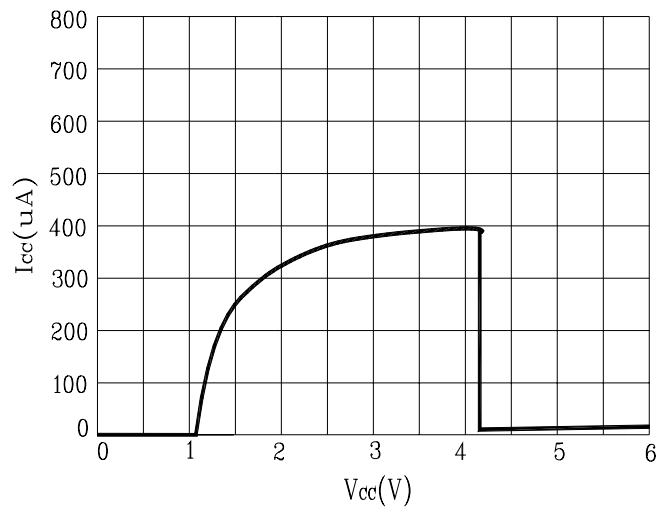


Fig. 3 $I_{CCH} - T_a$

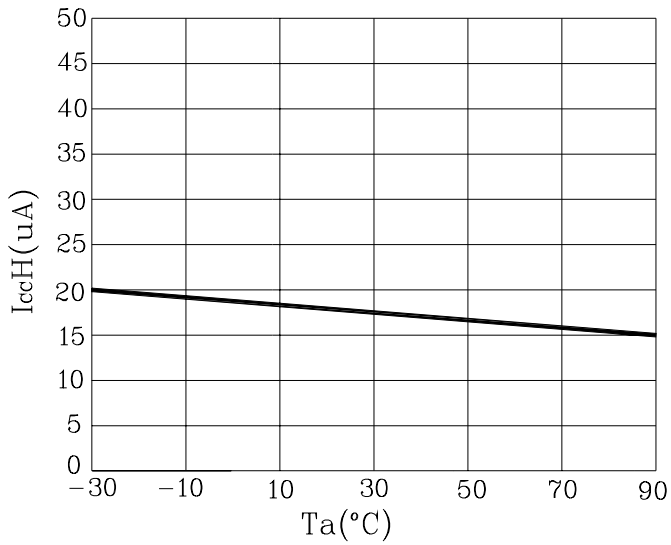
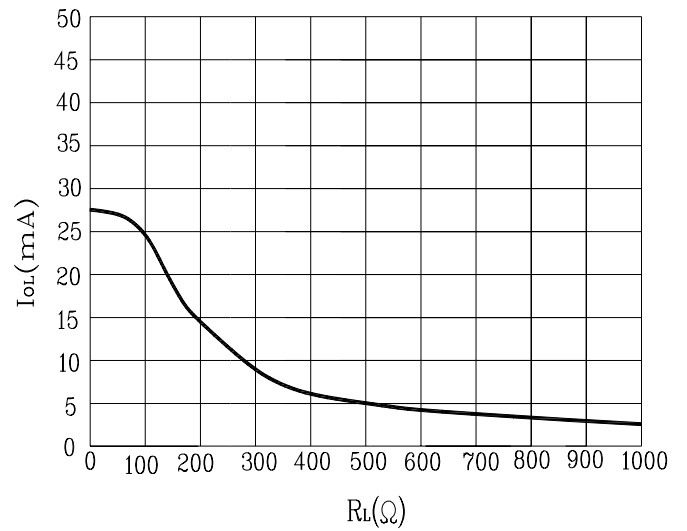


Fig. 4 $I_{OL} - R_L$



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