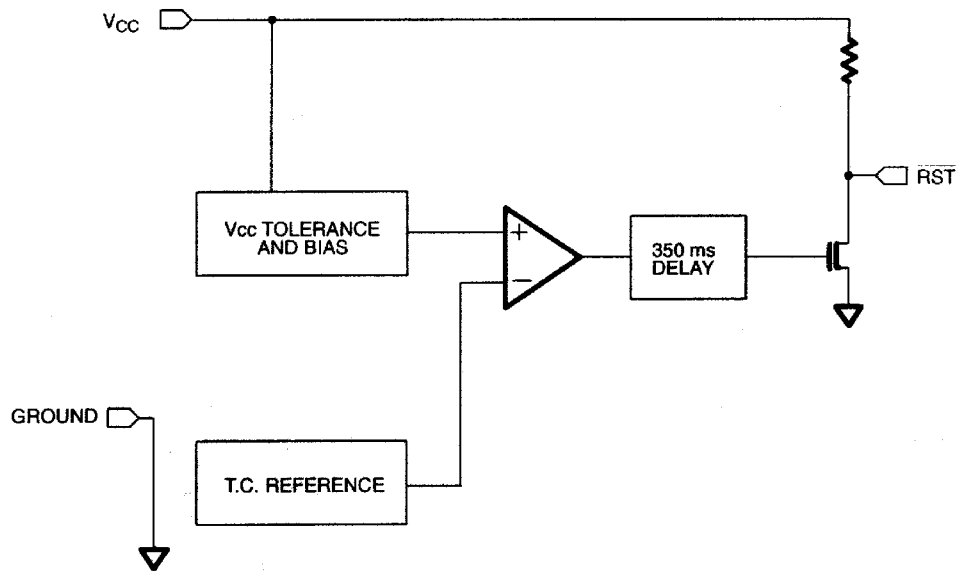
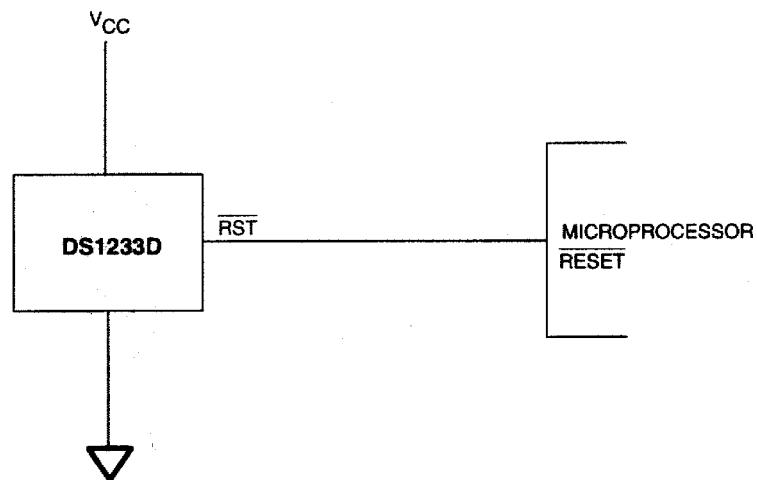
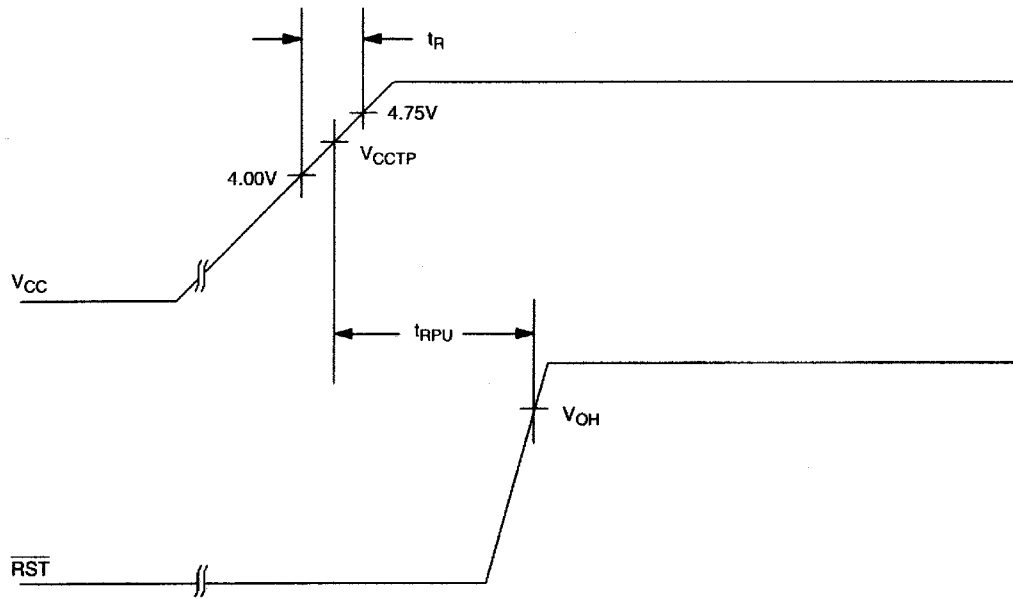
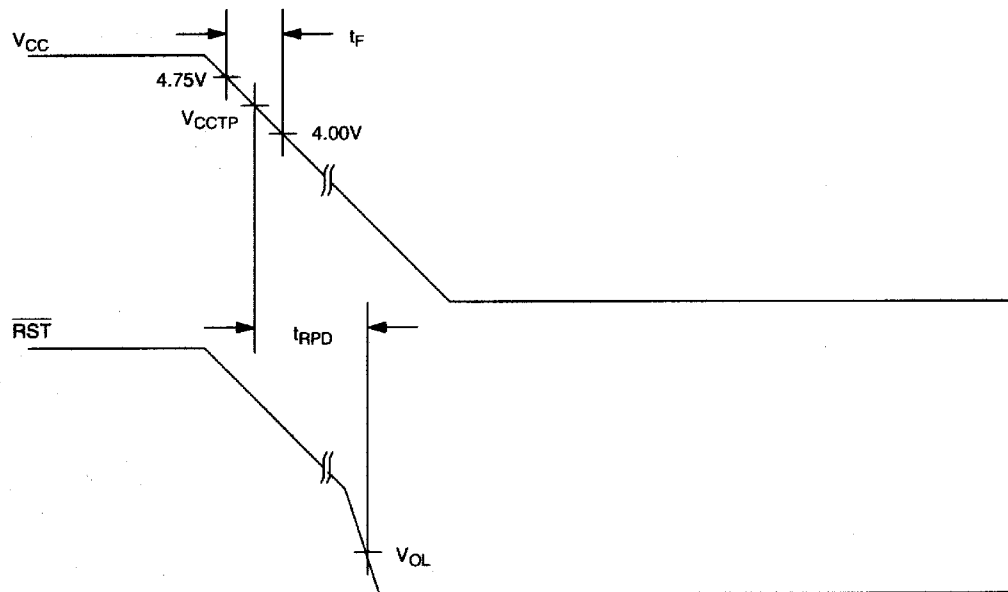


**BLOCK DIAGRAM Figure 1****APPLICATION EXAMPLE Figure 2**

**POWER UP Figure 3****POWER DOWN Figure 4**

**ABSOLUTE MAXIMUM RATINGS\***

|  |                          |
|--|--------------------------|
| Voltage on $V_{CC}$ Pin Relative to Ground | -0.5V to +7.0V           |
| Voltage on I/O Relative to Ground          | -0.5V to $V_{CC} + 0.5V$ |
| Operating Temperature                      | -40°C to +85°C           |
| Storage Temperature                        | -55°C to +125°C          |
| Soldering Temperature                      | 260°C for 10 seconds     |

- \* This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operation sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods of time may affect reliability.

**RECOMMENDED DC OPERATING CONDITIONS** (-40°C to +85°C)

| PARAMETER      | SYMBOL   | MIN | TYP | MAX | UNITS | NOTES |
|----------------|----------|-----|-----|-----|-------|-------|
| Supply Voltage | $V_{CC}$ | 1.2 | 5.0 | 5.5 | V     | 1     |

**DC ELECTRICAL CHARACTERISTICS** (-40°C to +85°C;  $V_{DD} = 5V \pm 10\%$ )

| PARAMETER                    | SYMBOL      | MIN  | TYP   | MAX  | UNITS      | NOTES |
|------------------------------|-------------|------|-------|------|------------|-------|
| Low Level @ $\overline{RST}$ | $V_{OL}$    |      |       | 0.4  | V          | 1     |
| Output Current @ 0.4V        | $I_{OL}$    | +8   |       |      | mA         | 2     |
| Operating Current            | $I_{CC}$    |      |       | 50   | $\mu A$    |       |
| $V_{CC}$ Trip Point 5%       | $V_{CCTP1}$ | 4.5  | 4.625 | 4.74 | V          | 1     |
| $V_{CC}$ Trip Point 10%      | $V_{CCTP2}$ | 4.25 | 4.375 | 4.49 | V          | 1     |
| $V_{CC}$ Trip Point 15%      | $V_{CCTP3}$ | 4.0  | 4.125 | 4.24 | V          | 1     |
| Output Capacitance           | $C_{OUT}$   |      |       | 10   | pF         |       |
| Internal Pull-Up Resistor    | $R_P$       | 3.75 | 5     | 6.25 | k $\Omega$ |       |

**AC ELECTRICAL CHARACTERISTICS** (-40°C to +85°C;  $V_{CC} = 5V \pm 10\%$ )

| PARAMETER                           | SYMBOL    | MIN | TYP | MAX | UNITS   | NOTES |
|-------------------------------------|-----------|-----|-----|-----|---------|-------|
| Reset Active Time                   | $t_{RST}$ | 250 | 350 | 450 | ms      |       |
| $V_{CC}$ Detect to $\overline{RST}$ | $t_{RPD}$ |     |     | 100 | ns      |       |
| $V_{CC}$ Slew Rate (4.75V - 4.00V)  | $t_F$     | 300 |     |     | $\mu s$ |       |
| $V_{CC}$ Slew Rate (4.00V - 4.75V)  | $t_R$     | 0   |     |     | ns      |       |
| $V_{CC}$ Detect to RST              | $t_{RPU}$ | 250 | 350 | 450 | ms      |       |

**NOTES:**

1. All voltages are referenced to ground.
2. A 1 k $\Omega$  external resistor may be required for proper operation of the microprocessor reset control circuit.

**ECONORESET SELECTION GUIDE**

|             |            | VCC TRIP POINT |       |      | PUSHBUTTON DETECT |     |     |
|-------------|------------|----------------|-------|------|-------------------|-----|-----|
|             |            | MIN            | TYP   | MAX  | MIN               | TYP | MAX |
| <b>5V</b>   | DS1233-15  | 4.0            | 4.125 | 4.24 | 2.4               | -   | 3.3 |
|             | DS1233-10  | 4.25           | 4.375 | 4.49 | 2.4               | -   | 3.3 |
|             | DS1233-5   | 4.5            | 4.625 | 4.75 | 2.4               | -   | 3.3 |
|             | DS1233D-15 | 4.0            | 4.125 | 4.24 | N/A               |     | N/A |
|             | DS1233D-10 | 4.25           | 4.375 | 4.49 | N/A               |     | N/A |
|             | DS1233D-5  | 4.5            | 4.625 | 4.75 | N/A               |     | N/A |
|             | DS1833-15  | 4.0            | 4.125 | 4.24 | N/A               |     | N/A |
|             | DS1833-10  | 4.25           | 4.375 | 4.49 | N/A               |     | N/A |
|             | DS1833-5   | 4.5            | 4.625 | 4.75 | N/A               |     | N/A |
| <b>3.3V</b> | DS1233A-15 | 2.64           | 2.72  | 2.80 | 1.8               | -   | 3.0 |
|             | DS1233A-10 | 2.8            | 2.88  | 2.97 | 1.8               | -   | 3.0 |