

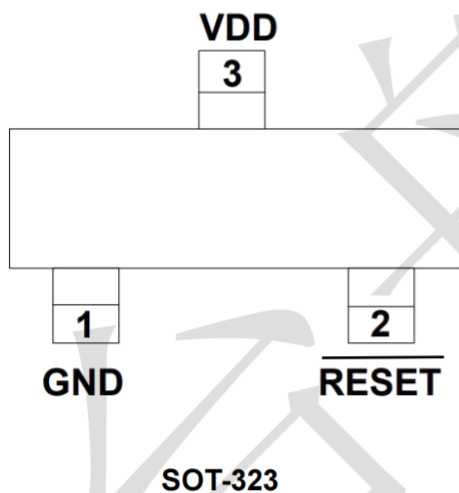
### Features

- High Accurate  $\pm 2\%$
- Precision VCC Monitoring of +2.5V, +3V, +3.3V and +5V Supplies
- Power Supply Transient Immunity
- Guaranteed Reset Valid to  $VCC = +1V$
- Fully Specified Over Temperature
- 2 $\mu A$  Supply Current
- Available in One Output Configuration: Open-Drain Active-Low  $\overline{RESET}$  Output
- Packages SOT-323

### Applications

- Computers
- Embedded Systems
- Battery-Powered Equipments
- Intelligent Instruments
- CPU and Logic Circuit Reset
- Power Fail Detectors
- Automotive

### Pin Definition



### Ordering Information

TPMIC803-29D3VC3

RESET VOLTAGE:

46 = 4.63V  
44 = 4.38V  
40 = 4.00V  
31 = 3.08V  
29 = 2.93V  
26 = 2.63V

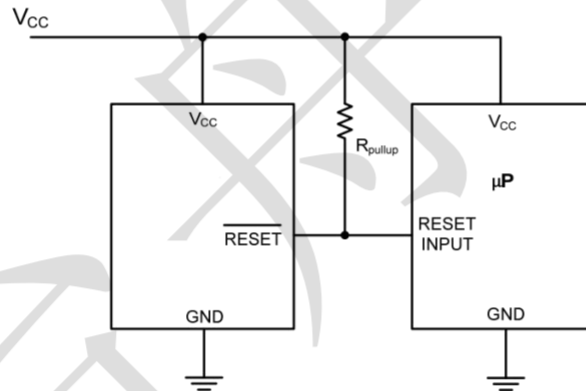
### PIN CONFIGURATION

| PIN | NAME               | FUNCTION                                                                                                                                        |
|-----|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | GND                | Ground                                                                                                                                          |
| 2   | $\overline{RESET}$ | $\overline{RESET}$ Output remains low while VCC is below the reset threshold, and for at least 140ms after VCC rises above the reset threshold. |
| 3   | VCC                | +5V, +3.3V, +3V or +2.5V Supply Voltage .                                                                                                       |

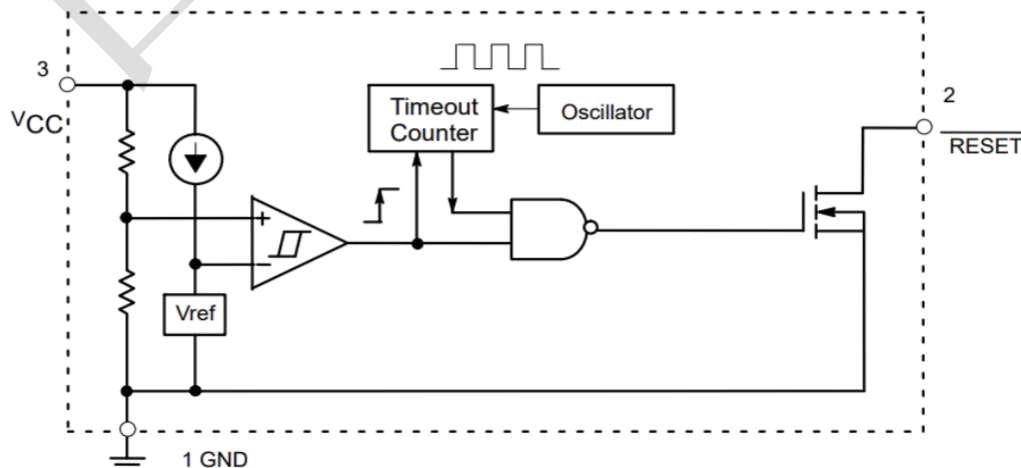
### Absolute Maximum Ratings

| Symbol          | Parameter                                                                      | Value        | UNIT           |
|-----------------|--------------------------------------------------------------------------------|--------------|----------------|
| VCC             | Supply Voltage                                                                 | -0.3 to +6.0 | V              |
|                 | $\overline{\text{RESET}}$                                                      | -0.3 to +6.0 | V              |
| ICC             | Input Current, VCC                                                             | 20           | mA             |
| IO              | Output Current, $\overline{\text{RESET}}$                                      | 20           | mA             |
|                 | Rate of Rise, VCC                                                              | 100          | V/ $\mu$ s     |
| PD              | Continuous Power Dissipation<br>Derate 4mW/ $^{\circ}$ C above 70 $^{\circ}$ C | 320          | mW             |
| TA              | Operating Temperature Range                                                    | -40 to +105  | $^{\circ}$ C   |
| TSTG            | Storage Temperature Range                                                      | -65 to +150  | $^{\circ}$ C   |
| $R_{\theta JC}$ | Thermal Resistance from Junction to Case                                       | 110          | $^{\circ}$ C/W |
| $R_{\theta JA}$ | Thermal Resistance from Junction to Ambient                                    | 250          | $^{\circ}$ C/W |

### TYPICAL APPLICATION CIRCUIT



### FUNCTIONAL BLOCK DIAGRAM



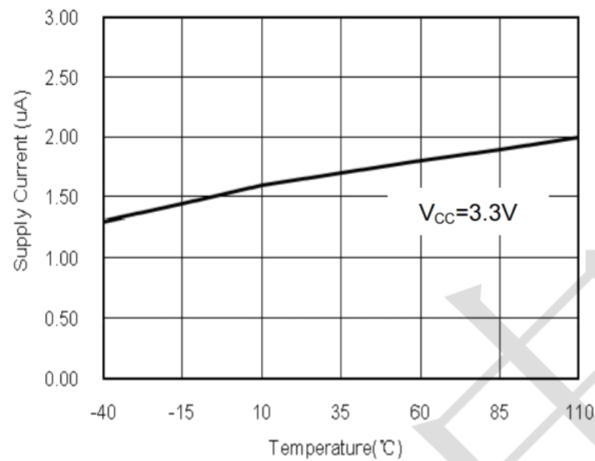
### Electrical Characteristics

(VCC=5V for L/M/J versions, VCC=3.3V for T/S versions, VCC=3V for R version, and VCC=2.5V for Z version, TA=-40°C to +85°C, unless otherwise noted. Typical values are at TA=+25°C.)

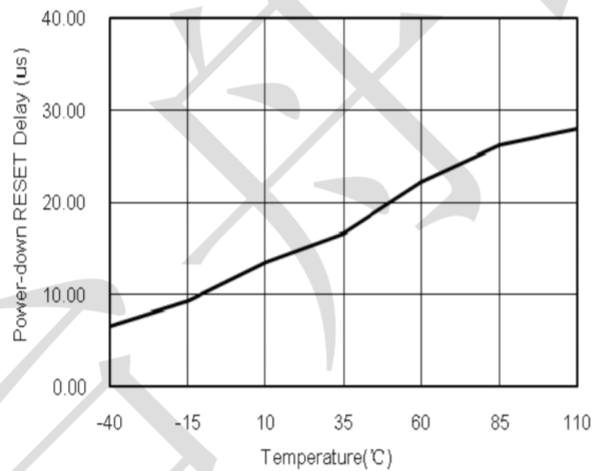
| Symbol | Parameter                               | Conditions                            | MIN  | Typ  | MAX  | UNIT   |
|--------|-----------------------------------------|---------------------------------------|------|------|------|--------|
| VCC    | Supply Voltage Range                    | TA=0°C to +70°C                       | 1.0  | --   | 5.5  | V      |
| ICC    | Supply Current                          |                                       | --   | 2.0  | --   | uA     |
| VTH    | Reset Threshold                         | 46 Version TA=+25°C                   | 4.56 | 4.63 | 4.70 | V      |
|        |                                         | 46 Version TA=-40°C to +85°C          | 4.50 | --   | 4.75 |        |
|        |                                         | 44 Version TA=+25°C                   | 4.31 | 4.38 | 4.45 |        |
|        |                                         | 44 Version TA=-40°C to +85°C          | 4.25 | --   | 4.50 |        |
|        |                                         | 40 Version TA=+25°C                   | 3.93 | 4.00 | 4.06 |        |
|        |                                         | 40 Version TA=-40°C to +85°C          | 3.89 | --   | 4.10 |        |
|        |                                         | 31 Version TA=+25°C                   | 3.04 | 3.08 | 3.11 |        |
|        |                                         | 31 Version TA=-40°C to +85°C          | 3.00 | --   | 3.15 |        |
|        |                                         | 29 Version TA=+25°C                   | 2.89 | 2.93 | 2.96 |        |
|        |                                         | 29 Version TA=-40°C to +85°C          | 2.85 | --   | 3.00 |        |
|        | Reset Threshold Tempco                  |                                       | --   | 150  | --   | ppm/°C |
|        |                                         |                                       |      |      |      |        |
|        | VCC to Reset Delay                      | VCC=VTH to (VTH-100mV)                | --   | 10   | --   | μS     |
| TRP    | Reset Active Timeout Period             |                                       | 140  | 240  | 560  | mS     |
| VOL    | RESET Output Voltage Low                | VCC=VTH min, ISINK=1.2mA, T_/S_/R_/Z_ | --   | --   | 0.3  | V      |
|        |                                         | VCC=VTH min, ISINK=3.2mA, T_/S_/R_/Z_ | --   | --   | 0.4  |        |
|        |                                         | VCC>1.0V, ISINK=50μA                  | --   | --   | 0.3  |        |
|        | RESET Open-Drain Output Leakage Current | VCC>VTH, RESET Deasserted             | --   | --   | 1    | μA     |

### Typical Operating Characteristics (TA=+25°C, unless otherwise noted.)

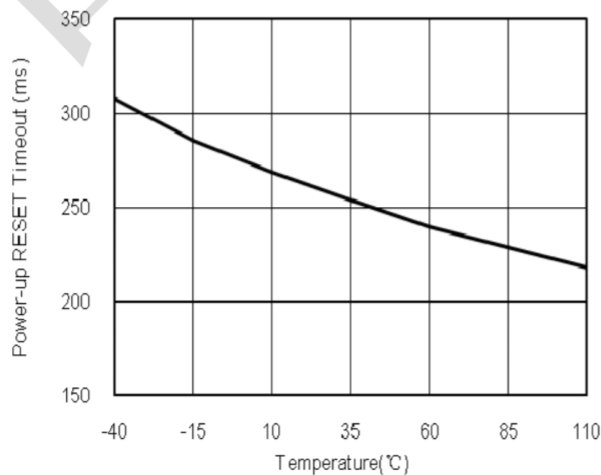
**Supply Current vs. Temperature**



**Power-Down RESET Delay vs. Temperature**

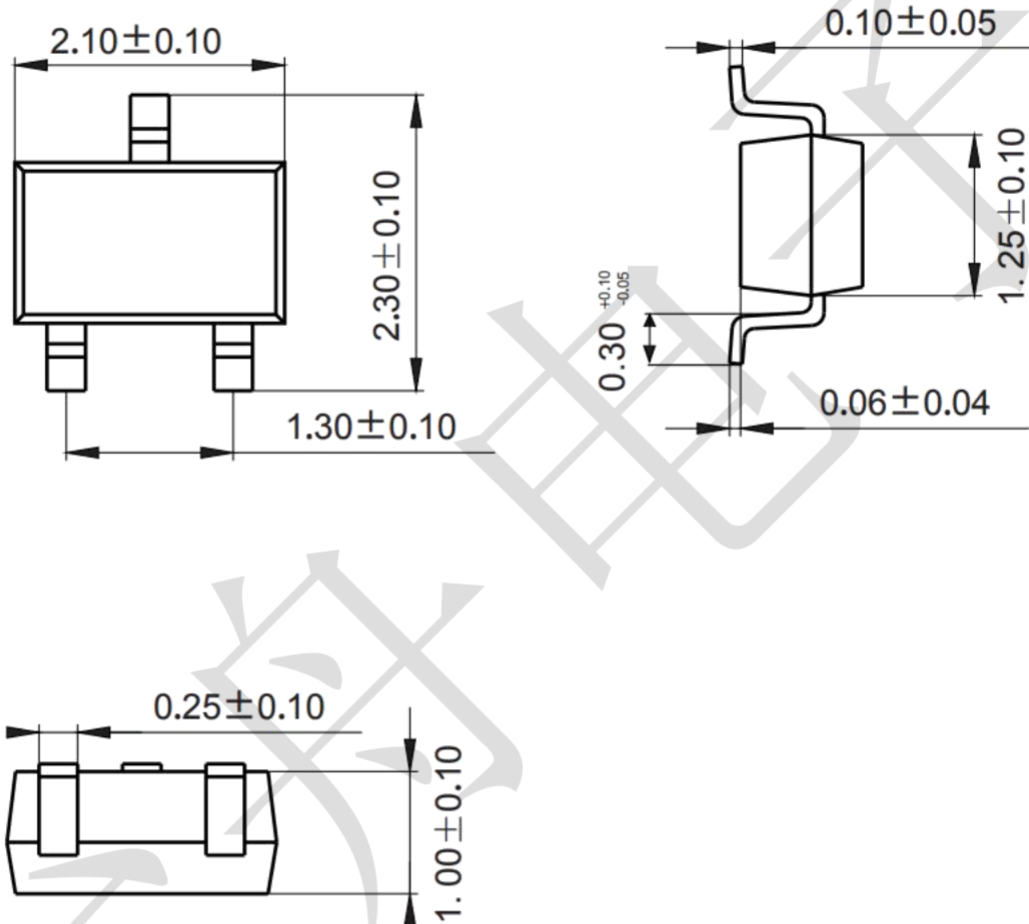


**Power-Up RESET Timeout vs. Temperature**



## Package Outline Dimensions (unit: mm)

SOT-323



## Mounting Pad Layout (unit: mm)

