

Features

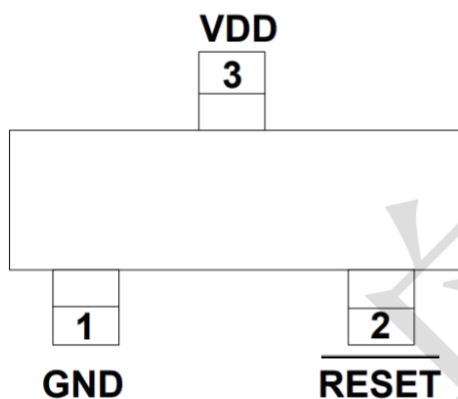
- Typical Quiescent Current of 3 μ A
- No External Components
- V_{CC} Transient Immunity
- Correct Logic Output Guaranteed to V_{CC}=1.0V
- Push-Pull Low Active Reset Output
- Packages SOT323

pin to pin MCP103T-300E/LB

Applications

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

Pin Definition



SOT323

Ordering Information

TPMCP103T-300E/LB

RESET VOLTAGE:

240=2.32V

270=2.63V

300=2.93V

315=3.08V

450=4.38V

475=4.63V

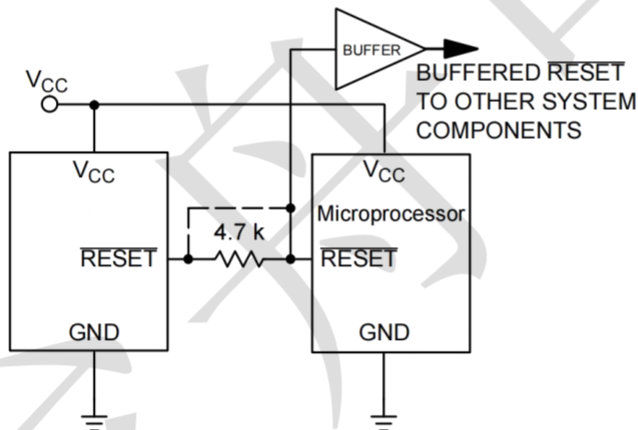
PIN CONFIGURATION

PIN	NAME	FUNCTION
1	GND	Ground
2	RESET	RESET output remains low while VCC is below the reset voltage threshold, and for a reset timeout period after VCC rises above reset threshold
3	VCC	Supply Voltage .

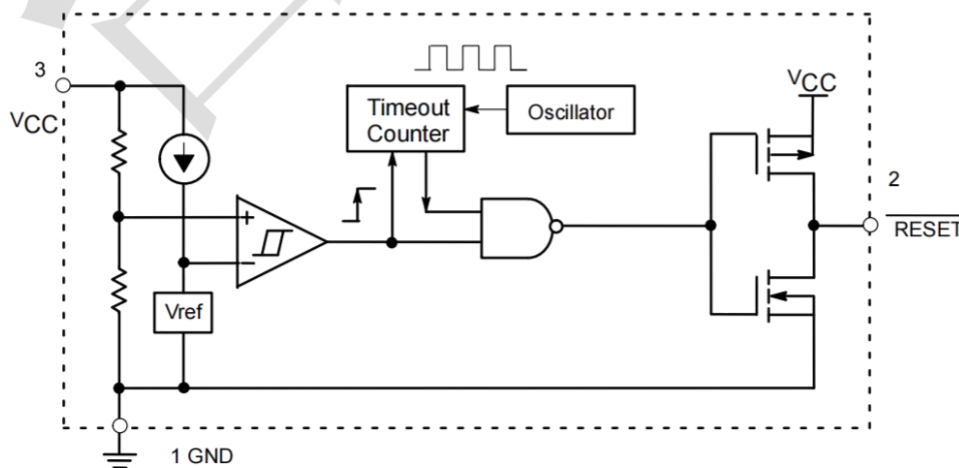
Absolute Maximum Ratings (Note 1)

Symbol	Parameter	Value	UNIT
VCC	Any pin with respect to ground	-0.3 to +6.0	V
ICC	Input Current, VCC	20	mA
IO	Output Current, RESET	20	mA
	Rate of Rise, VCC	100	V/ μ s
PD	Continuous Power Dissipation	250	mW
TA	Operating Temperature Range	-40 to +85	°C
TSTG	Storage Temperature Range	-65 to +105	°C
R θ JC	Thermal Resistance from Junction to Case	110	°C/W
R θ JA	Thermal Resistance from Junction to Ambient	250	°C/W

TYPICAL APPLICATION CIRCUIT



FUNCTIONAL BLOCK DIAGRAM



Series Complementary Active-Low Output

Electrical Characteristics

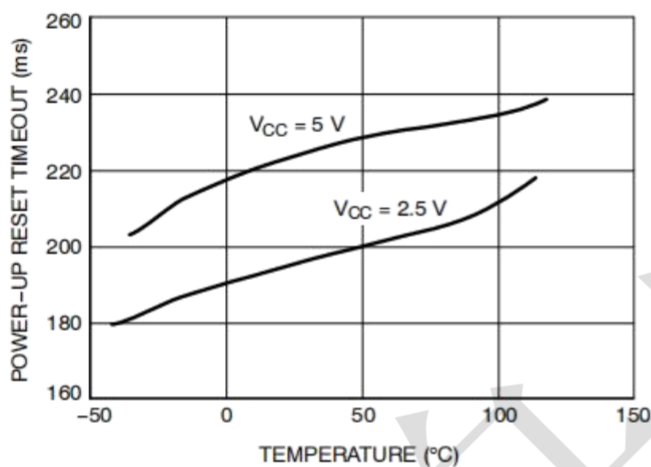
(VCC=full range, TA=-40°C to +85°C, unless otherwise noted. Typical values are at TA=+25°C, VCC=5V for L/M/J versions, VCC=3.3V for T/S versions, VCC=3V for R version, and VCC=2.5V for Z version.) Note1

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
	V _{CC} Range	T _A =0°C to +70°C		1.0		5.5	V
I _{CC}	Supply Current	V _{CC} <5.5V, L/M/J			3	5	μA
		V _{CC} <3.6V, R/S/T/Z			3	5	
V _{TH}	Reset Threshold	475	T _A =+25°C	4.49	4.63	4.72	V
			T _A =-40°C to +85°C	4.44		4.76	
		450	T _A =+25°C	4.29	4.38	4.51	
			T _A =-40°C to +85°C	4.25		4.55	
		315	T _A =+25°C	3.02	3.08	3.18	
			T _A =-40°C to +85°C	2.99		3.21	
		300	T _A =+25°C	2.83	2.93	2.97	
			T _A =-40°C to +85°C	2.80		3.00	
		270	T _A =+25°C	2.54	2.63	2.67	
			T _A =-40°C to +85°C	2.51		2.69	
		240	T _A =+25°C	2.24	2.32	2.36	
			T _A =-40°C to +85°C	2.22		2.38	
Reset Threshold Tempco					30		ppm/°C
V _{CC} to Reset Delay		V _{CC} =V _{TH} to (V _{TH} -100mV)			10		μs
Reset Active Timeout Period		T _A =-40°C to +85°C		140	240	360	ms
V _{OL}	RESET Output Voltage Low (Push-Pull Active Low)	V _{CC} =V _{TH} min, I _{SINK} =1.2mA,S/T/Z				0.3	V
		V _{CC} =V _{TH} min, I _{SINK} =3.2mA,J/L/M				0.4	
		V _{CC} ≤1.0V, I _{SINK} =50μA				0.3	
V _{OH}	RESET Output Voltage High (Push-Pull Active Low)	V _{CC} >V _{TH} max, I _{SOURCE} =500μA, S/T/Z		0.8V _{CC}			V
		V _{CC} >V _{TH} max, I _{SOURCE} =800μA, J/L/M		V _{CC} -1.5			

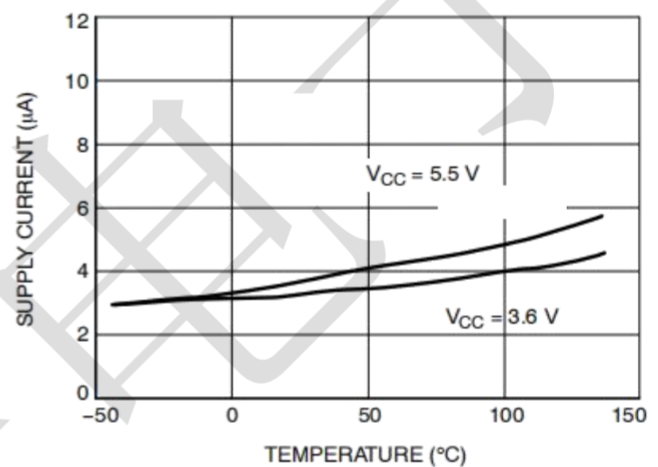
Note 1: Production testing done at TA=+25°C; limits over temperature guaranteed by design only.

Typical Operating Characteristics

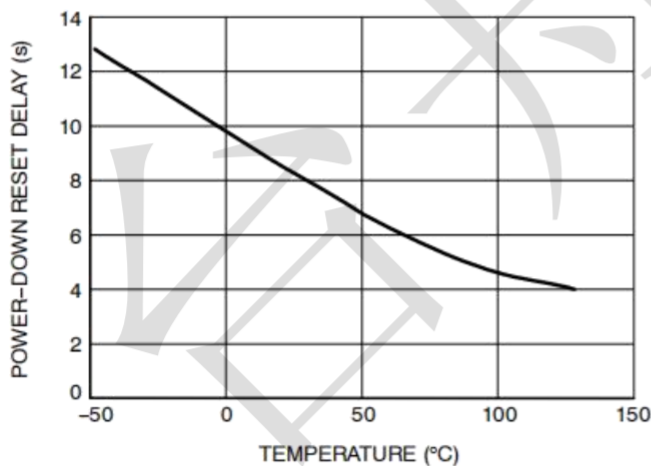
(VCC = Full range, TA = -40°C to +85°C unless otherwise noted. Typical values at TA = +25°C and VCC = 5 V for the L/M/J versions, VCC = 3.3 V for the T/S versions, VCC = 3 V for the R version and VCC = 2.5 V for the Z version.)



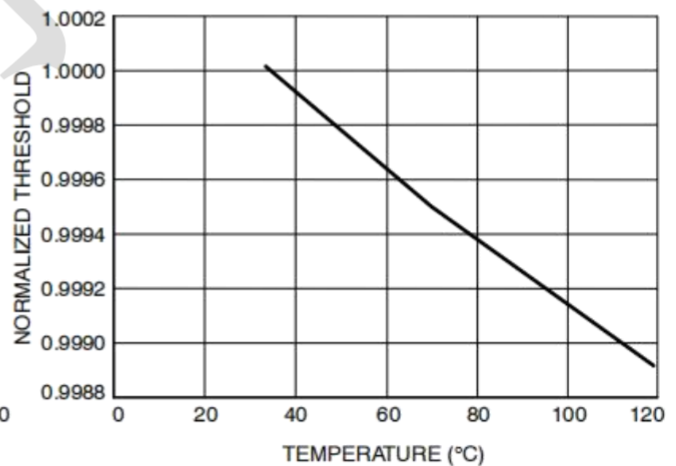
Power-Up Reset Timeout vs. Temperature



Supply Current vs. Temperature (No Load,)



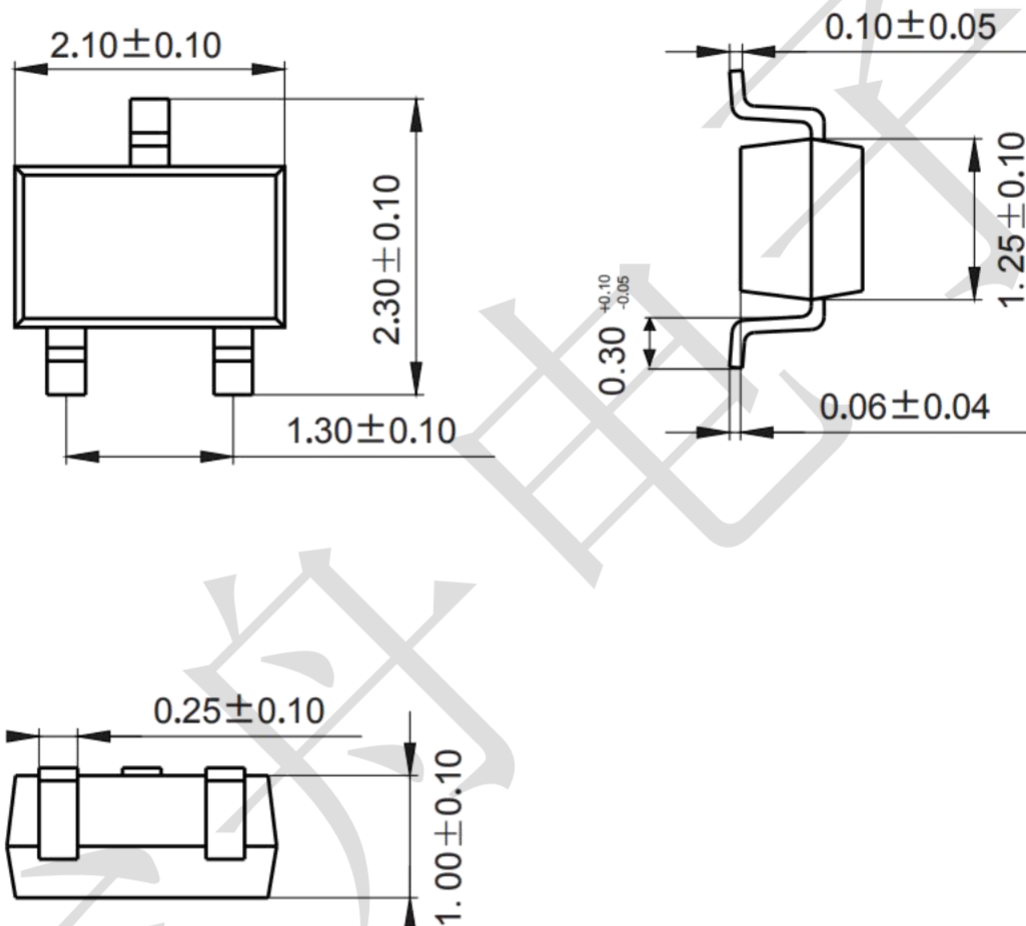
Power-Down Reset Delay vs. Temperature



Normalized Reset Threshold vs. Temperature

Package Outline Dimensions (unit: mm)

SOT323



Mounting Pad Layout (unit: mm)

