

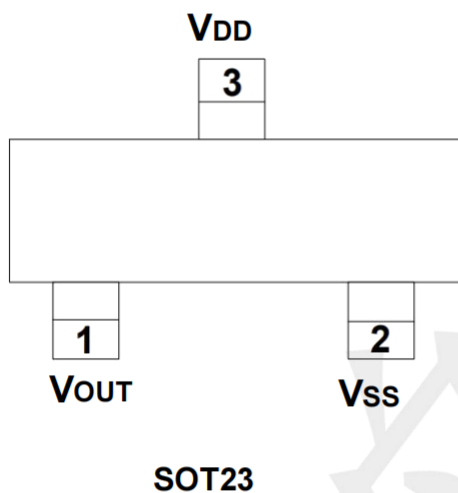
Features

- Typical Quiescent Current of 3 μ A
- No External Components
- V_{DD} Transient Immunity
- Correct Logic Output Guaranteed to V_{DD}=1.0V
- Push-Pull Low Active Reset Output
- Packages SOT23

Applications

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

Pin Definition



Ordering Information

TPMCP112T-XXxE/TT

RESET VOLTAGE:

270E=2.63V
290E=2.90V
300E=2.93V
315E=3.08V
450E=4.38V
475E=4.63V

PACKAGE TYPE

TT:SOT23

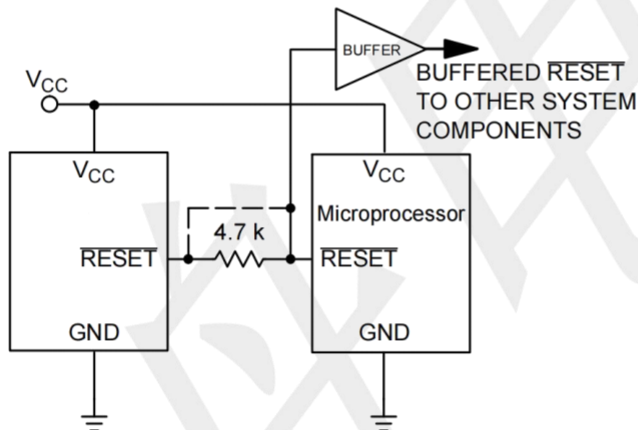
PIN CONFIGURATION

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

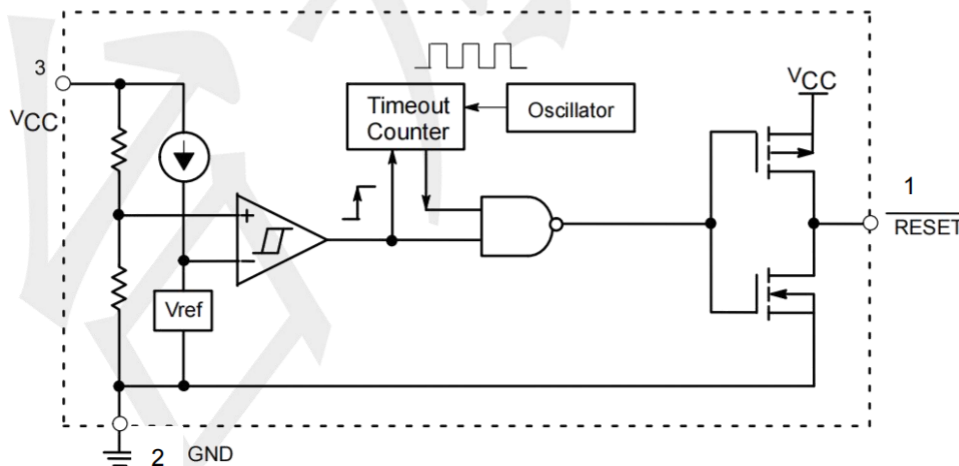
Absolute Maximum Ratings (Note 1)

Symbol	Parameter	Value	UNIT
VDD	Any pin with respect to ground	-0.3 to +6.0	V
IDD	Input Current, VDD	20	mA
IO	Output Current, VOUT	20	mA
	Rate of Rise, VDD	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

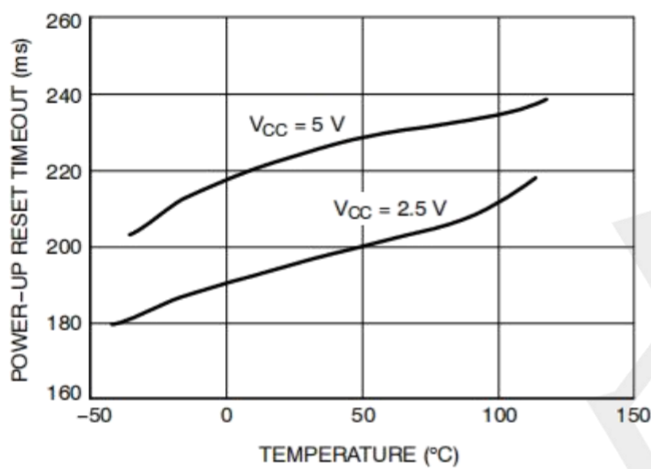
(VCC=full range, TA=-40°C to +85°C, unless otherwise noted. Typical values are at TA=+25°C, VCC=5V for L/M/J versions, VCC=3.3V for T/S versions, VCC=3V for R version, and VCC=2.5V for Z version.) Note1

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
	V _{DD} Range	T _A =0°C to +70°C		1.0		5.5	V
I _{DD}	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	TPMC122T 270E/TT	T _A =+25°C	2.591	2.630	2.670	V
			T _A =-40°C to +85°C	2.564	2.630	2.696	
		TPMC122T 290E/TT	T _A =+25°C	2.857	2.900	2.944	
			T _A =-40°C to +85°C	2.828	2.900	2.973	
		TPMC122T 300E/TT	T _A =+25°C	2.886	2.930	2.974	
			T _A =-40°C to +85°C	2.857	2.930	3.003	
		TPMC122T 315E/TT	T _A =+25°C	3.034	3.080	3.126	
			T _A =-40°C to +85°C	3.003	3.080	3.157	
		TPMC122T 450E/TT	T _A =+25°C	4.314	4.380	4.446	
			T _A =-40°C to +85°C	4.271	4.380	4.490	
TPMC122T 475E/TT	T _A =+25°C	4.561	4.630	4.700			
	T _A =-40°C to +85°C	4.514	4.630	4.746			
Reset Threshold Tempco				--	30	--	ppm/°C
V _{DD} 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	--	--	

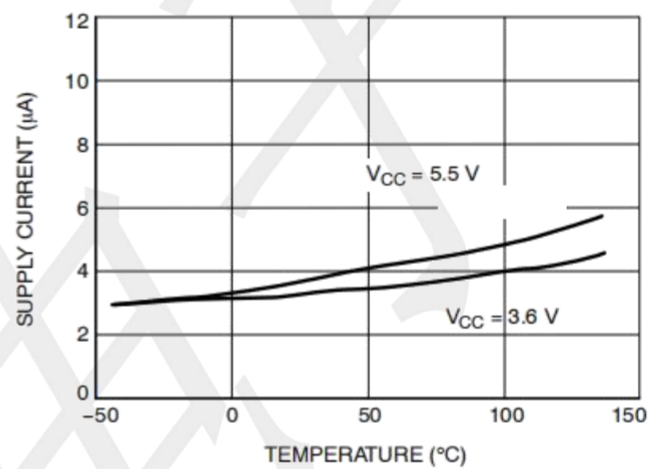
Note 1: Production testing done at TA=+25°C; limits over temperature guaranteed by design only.

Typical Operating Characteristics

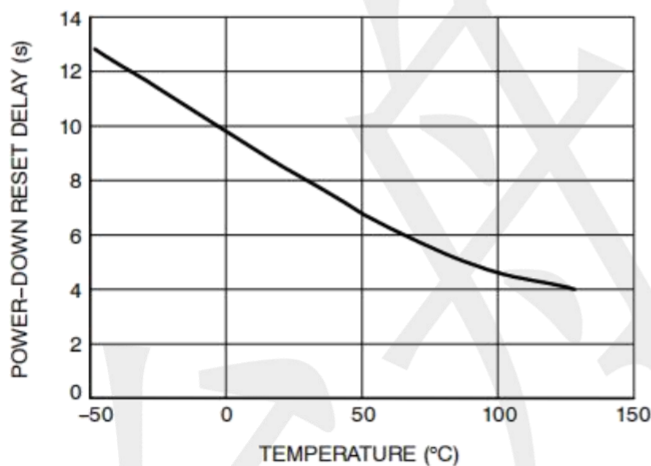
(VCC = Full range, TA = -40°C to +85°C unless otherwise noted. Typical values at TA = +25°C and VCC = 5 V for the L/M/J versions, VCC = 3.3 V for the T/S versions, VCC = 3 V for the R version and VCC = 2.5 V for the Z version.)



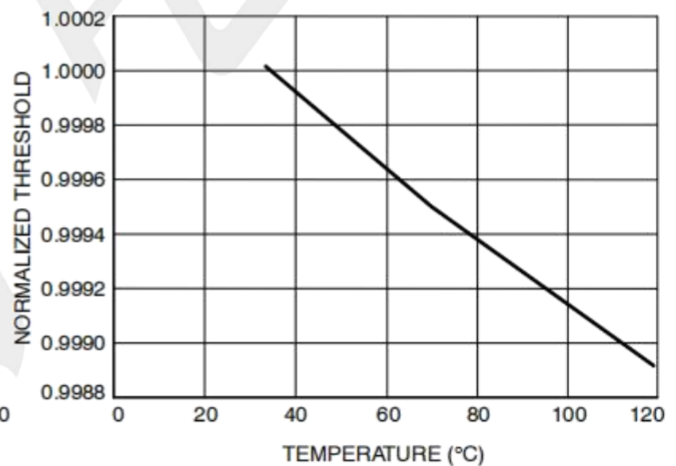
Power-Up Reset Timeout vs. Temperature



Supply Current vs. Temperature (No Load,)



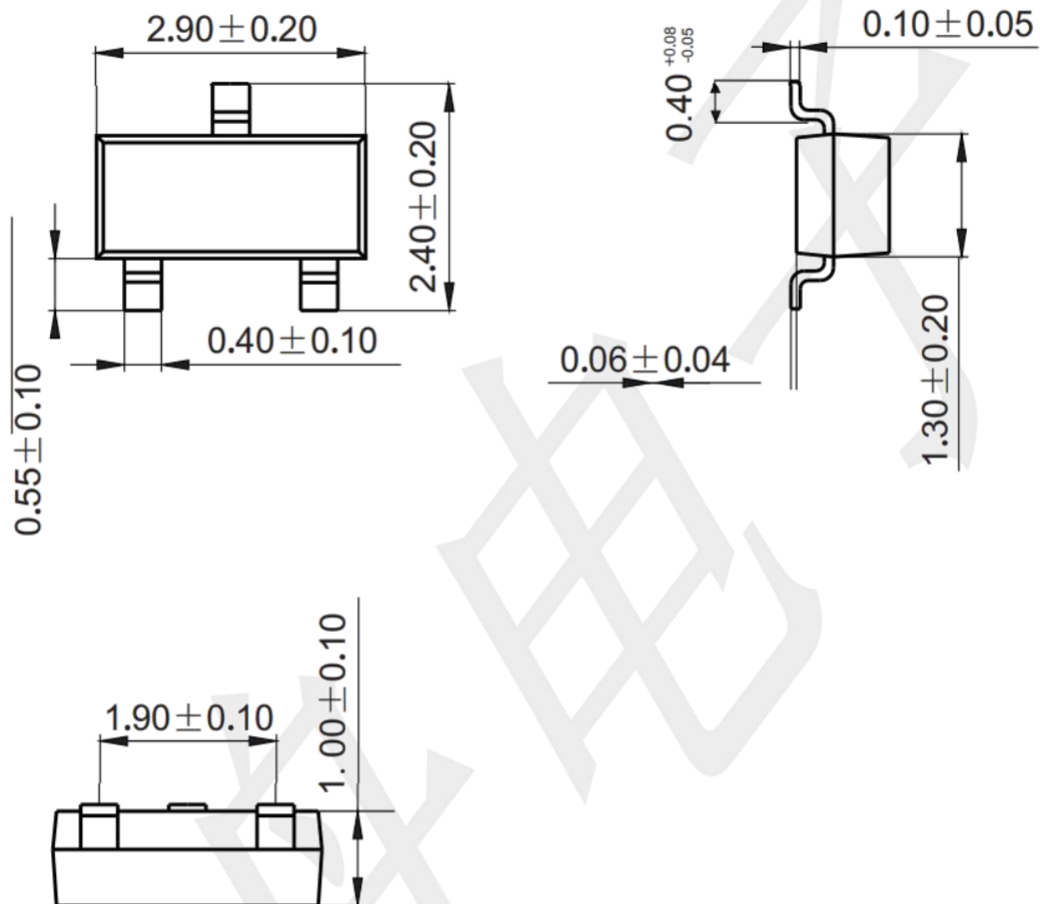
Power-Down Reset Delay vs. Temperature



Normalized Reset Threshold vs. Temperature

Package Outline Dimensions (unit: mm)

SOT23



Mounting Pad Layout (unit: mm)

