

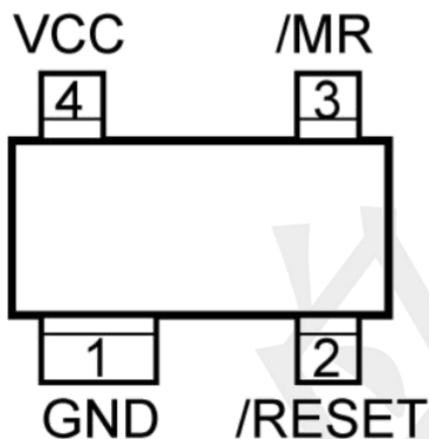
Features

- Manual Reset Input
- Precision VCC Monitoring of +3V, +3.3V and +5V Supplies
- Power Supply Transient Immunity
- Guaranteed Reset Valid to VCC= 1V
- Fully Specified Over Temperature
- 6 μ A Supply Current
- Available in One Output Configuration: Active LOW Reset

Applications

- Battery-operated systems and controllers
- Embedded Control Systems
- Critical μ P and μ C power monitoring
- Portable / Battery powered equipment
- Automotive

Pin Definition SOT-143



Ordering Information

TPSTM6315LDW13F

RESET VOLTAGE:

R=2.63V
S=2.93V
M=4.38V
L=4.63V

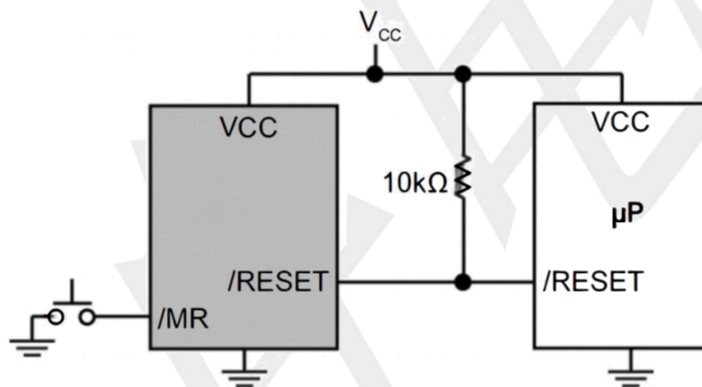
PIN CONFIGURATION

PIN	NAME	FUNCTION
1	GND	Ground
2	/RESET	/RESET goes low if VCC falls below the reset threshold and remains asserted for one reset timeout period after VCC exceeds the reset threshold.
3	/MR	Manual Reset Input: A logic LOW on /MR forces a reset. The reset will remain asserted as long as /MR is held LOW and for one reset timeout period after /MR goes HIGH. This input can be shorted to ground via a switch or be driven by TTL or CMOS logic. Float if unused.
4	VCC	Power supply input.

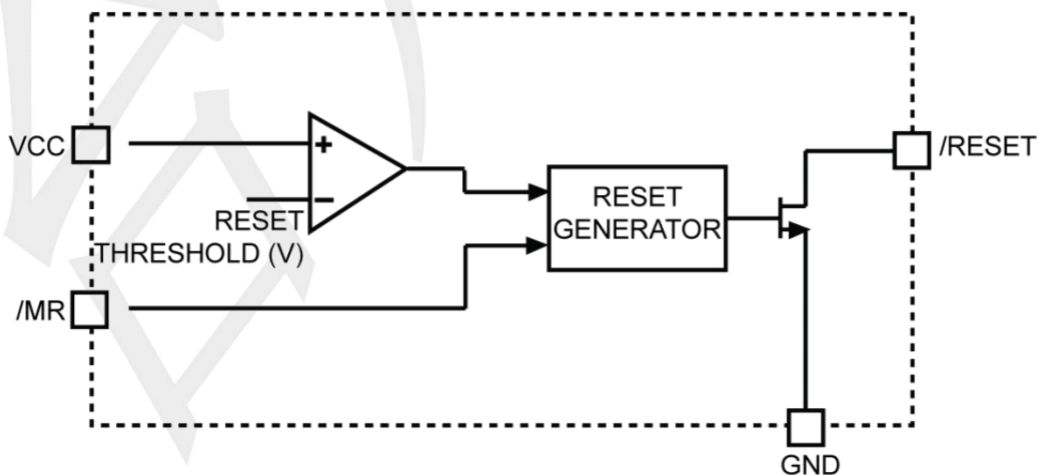
Absolute Maximum Ratings

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 Derate 4mW/°C above 70°C	320	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



TPSTM6315 Series

Open-Drain Microprocessor Reset Circuit

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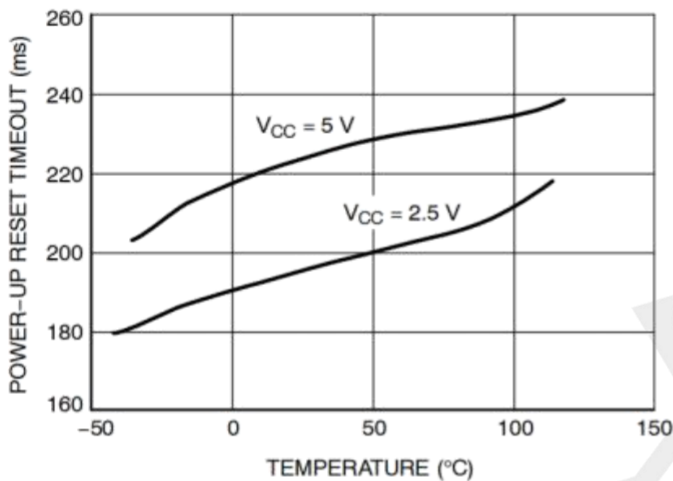
Electrical Characteristics

(TA=-40°C to +85°C, unless otherwise noted. Typical values are at TA=+25°C.)

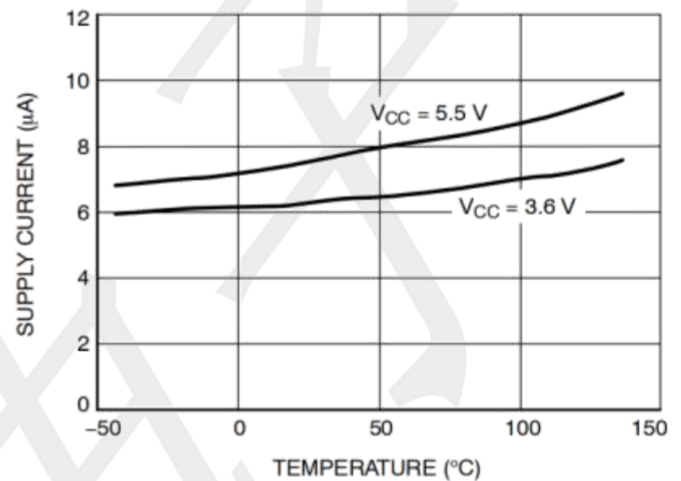
Symbol	Parameter	Conditions	MIN	Typ	MAX	UNIT
VCC	Supply Voltage Range	TA=0°C to +70°C	1.0	--	5.5	V
		TA=-40°C to +85°C	1.2	--	5.5	
ICC	Supply Current		--	2.0	--	uA
VTH	Reset Threshold	L	TA=+25°C	4.56	4.63	4.70
			TA=-40°C to +85°C	4.50	--	4.75
		M	TA=+25°C	4.31	4.38	4.45
			TA=-40°C to +85°C	4.25	--	4.50
		S	TA=+25°C	2.89	2.93	2.96
			TA=-40°C to +85°C	2.85	--	3.00
		R	TA=+25°C	2.59	2.63	2.66
			TA=-40°C to +85°C	2.55	--	2.70
	Reset Threshold Tempco		--	150	--	ppm/°C
	VCC to Reset Delay	VCC=VTH to (VTH-100mV)	--	20	--	μS
TRP	Reset Active Timeout Period	TA=-40°C to +85°C	140	240	450	mS
VOL	/RESET Output Voltage Low	VCC=VTH min, ISINK=1.2mA,	--	--	0.3	V
		VCC=VTH min, ISINK=3.2mA,	--	--	0.4	
		VCC>1.0V, ISINK=50μA	--	--	0.3	
tMR	/MR Minimum Pulse Width		--	10	1	μS
VIH	/MR Input Threshold	VCC > VTH (MAX),	2.3	--	--	V
VIL			--	--	0.8	
	/MR Pull-up Resistance		10	20	40	KΩ

Typical Operating Characteristics

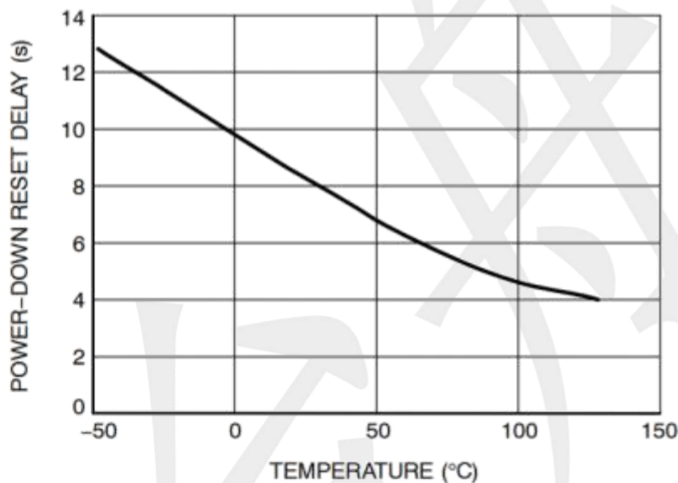
(VCC = Full range, TA = -40°C to +85°C unless otherwise noted. Typical values at TA = +25°C)



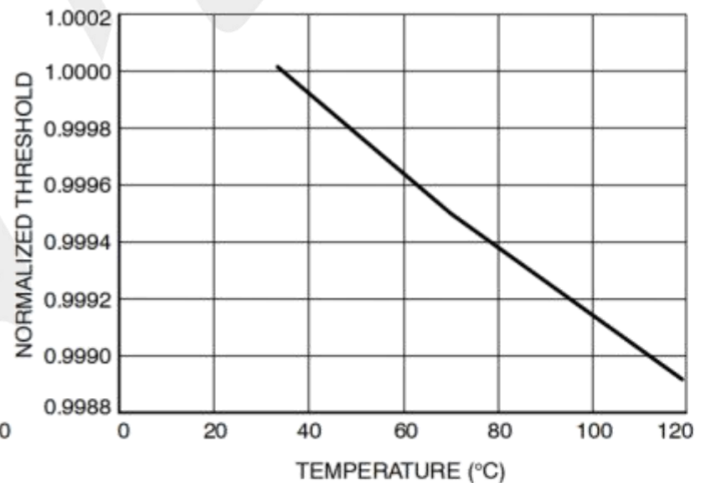
Power-Up Reset Timeout vs. Temperature



**Supply Current vs. Temperature
No Load**



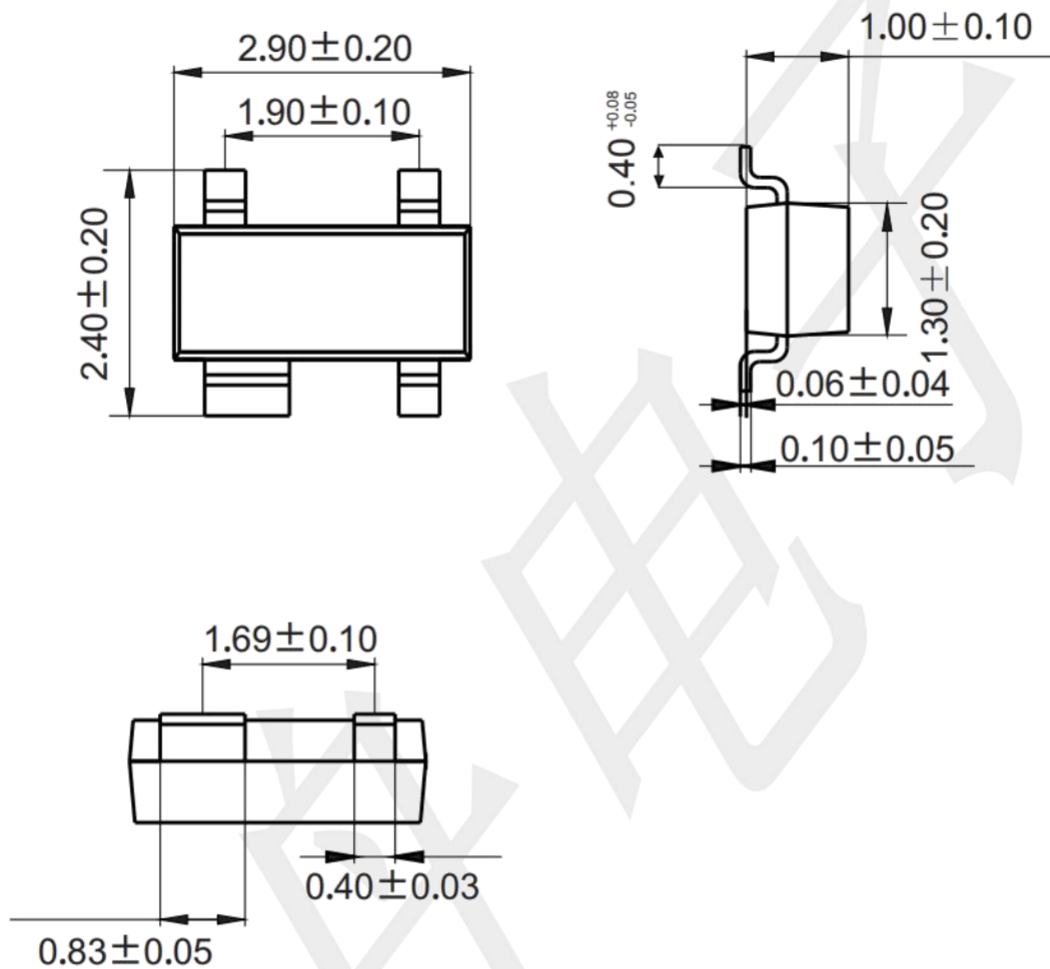
Power-Down Reset Delay vs. Temperature



Normalized Reset Threshold vs. Temperature

Package Outline Dimensions (unit: mm)

SOT-143



Mounting Pad Layout (unit: mm)

