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TPADM6315 Series

Open-Drain Microprocessor Reset Circuit

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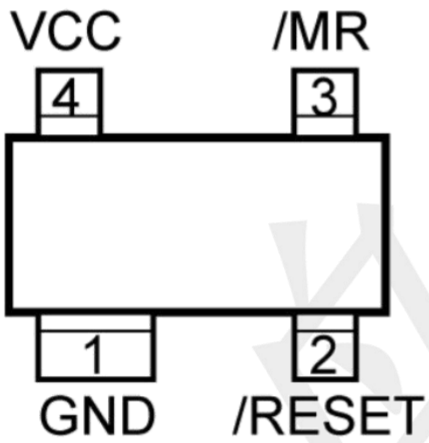
Features

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

Applications

- Battery-operated systems and controllers
- Embedded Control Systems
- Critical μP and μC power monitoring
- Portable / Battery powered equipment
- Automotive

Pin Definition SOT-143



Ordering Information

TPADM6315-31D3ARTZR7

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

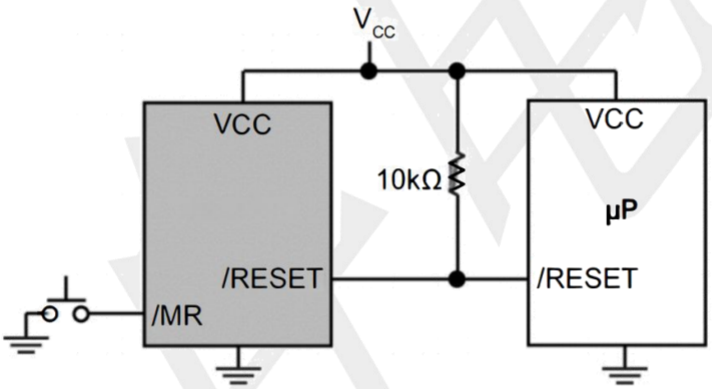
PIN CONFIGURATION

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.

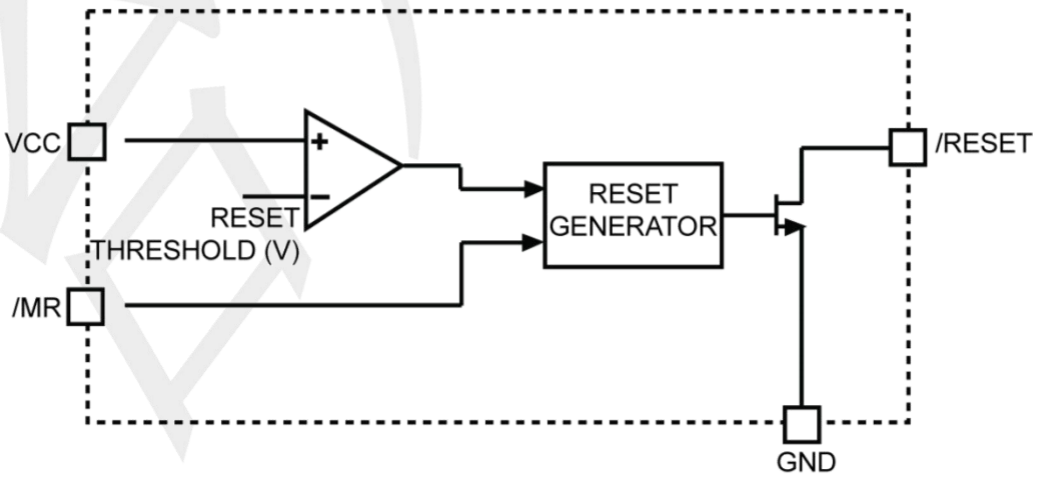
Absolute Maximum Ratings

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/μs
PD	Continuous Power Dissipation Derate 4mW/°C above 70°C	320	mW
TA	Operating Temperature Range	-40 to +85	℃
TSTG	Storage Temperature Range	-65 to +105	℃
$R_{\theta JC}$	Thermal Resistance from Junction to Case	110	°C/W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250	°C/W

TYPICAL APPLICATIN CIRCUIT



FUNCTIONAL BLOCK DIAGRAM



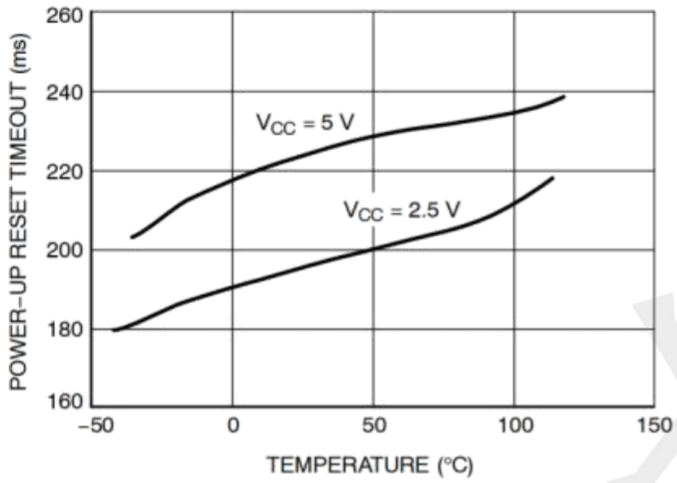
Electrical Characteristics

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

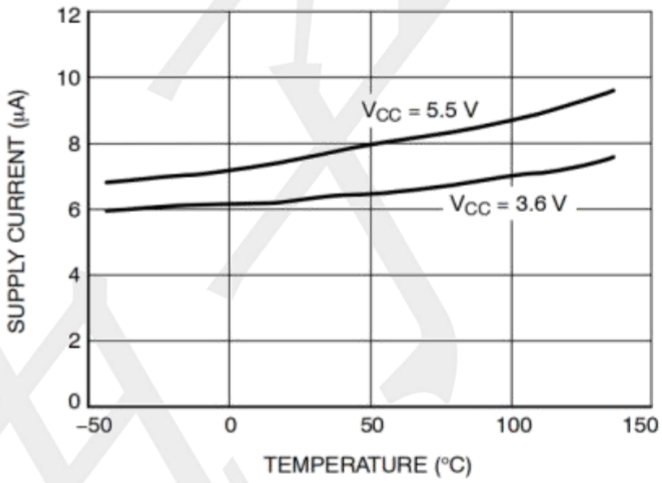
Symbol	Parameter	Conditions		MIN	Typ	MAX	UNIT
VCC	Supply Voltage Range	TA=0°C to +70°C		1.0	--	5.5	V
		TA=-40°C to +85°C		1.2	--	5.5	
ICC	Supply Current			--	2.0	--	uA
VTH	Reset Threshold	46 Version	TA=+25°C	4.56	4.63	4.70	V
			TA=-40°C to +85°C	4.50	--	4.75	
		44 Version	TA=+25°C	4.31	4.38	4.45	
			TA=-40°C to +85°C	4.25	--	4.50	
		40 Version	TA=+25°C	3.93	4.00	4.06	
			TA=-40°C to +85°C	3.89	--	4.10	
		31 Version	TA=+25°C	3.04	3.08	3.11	
			TA=-40°C to +85°C	3.00	--	3.15	
		29 Version	TA=+25°C	2.89	2.93	2.96	
			TA=-40°C to +85°C	2.85	--	3.00	
		26 Version	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

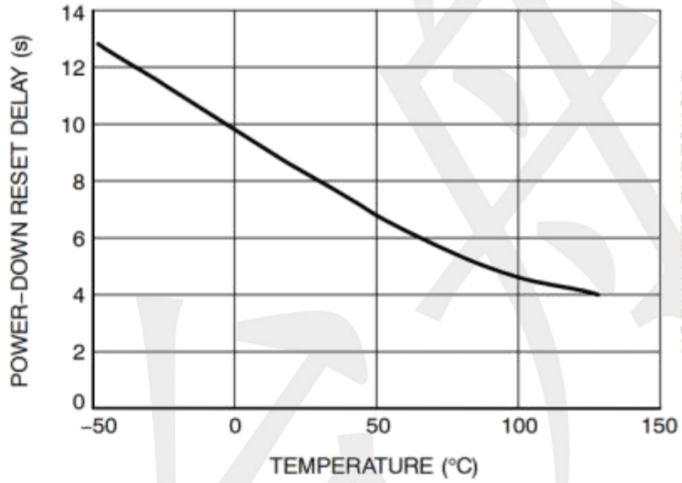
(VCC = Full range, TA = −40°C to +85°C unless otherwise noted. Typical values at TA = +25°C)



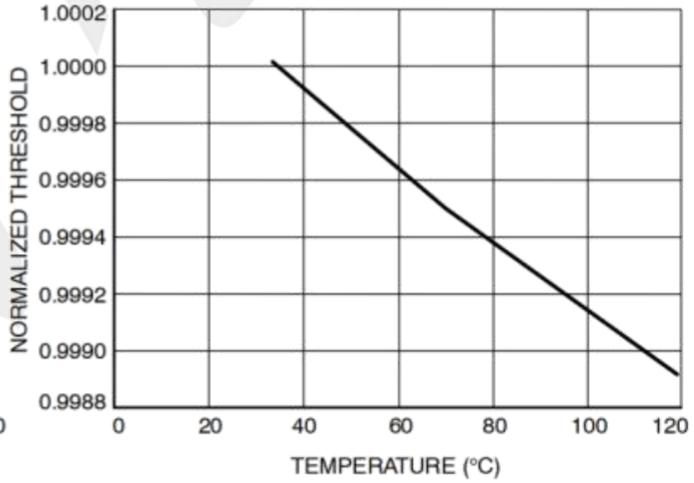
Power−Up Reset Timeout vs. Temperature



Supply Current vs. Temperature No Load



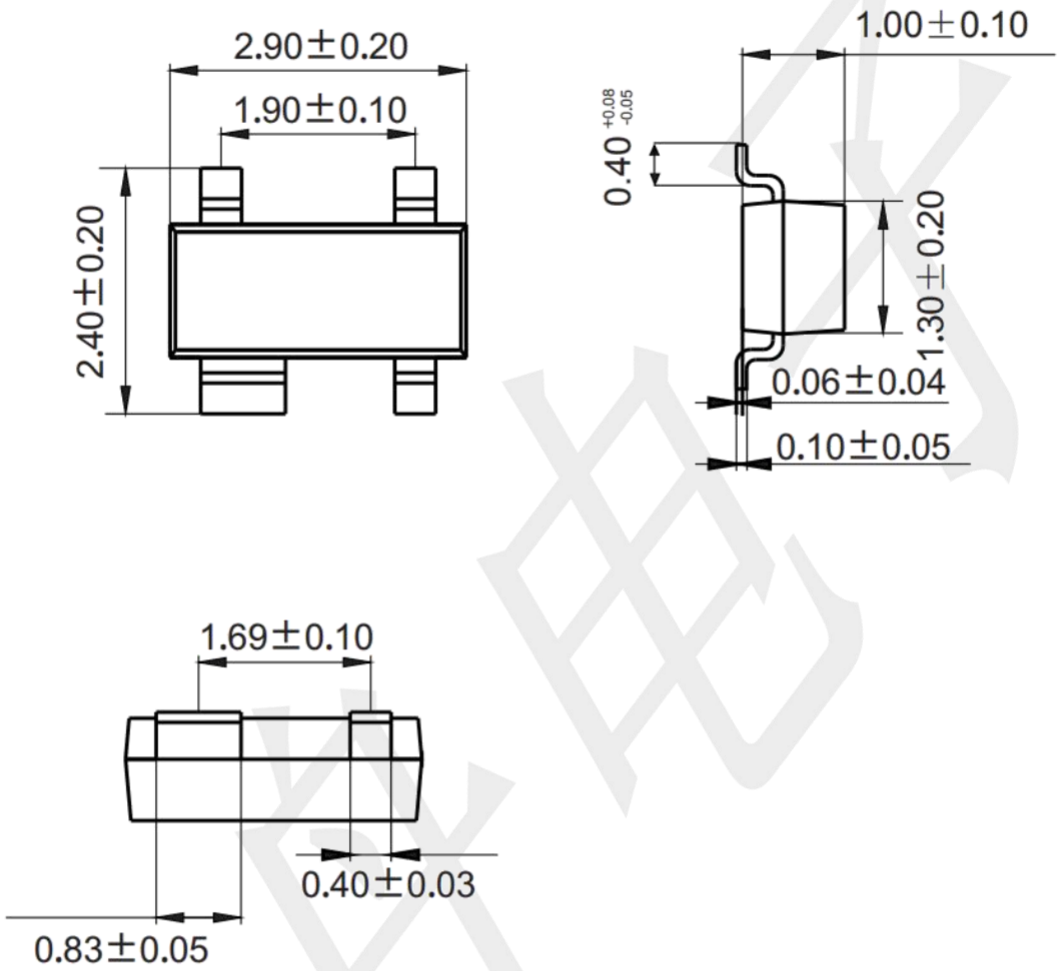
Power−Down Reset Delay vs. Temperature



Normalized Reset Threshold vs. Temperature

Package Outline Dimensions (unit: mm)

SOT−143



Mounting Pad Layout (unit: mm)