TECH PUBLIC
台舟电子

TPAX803RS3

Microprocessor Reset Circuit

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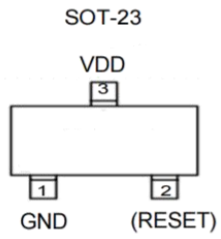
Features

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

Applications

- Battery-operated systems and controllers
- Intelligent instruments
- Critical μP and μC power monitoring
- Portable / Battery powered equipment
- Automotive

Pin Definition



Ordering Information

TPAX803RS3

RESET VOLTAGE: L=4.63V
M=4.38V
T=3.08V
S=2.93V
R=2.63V

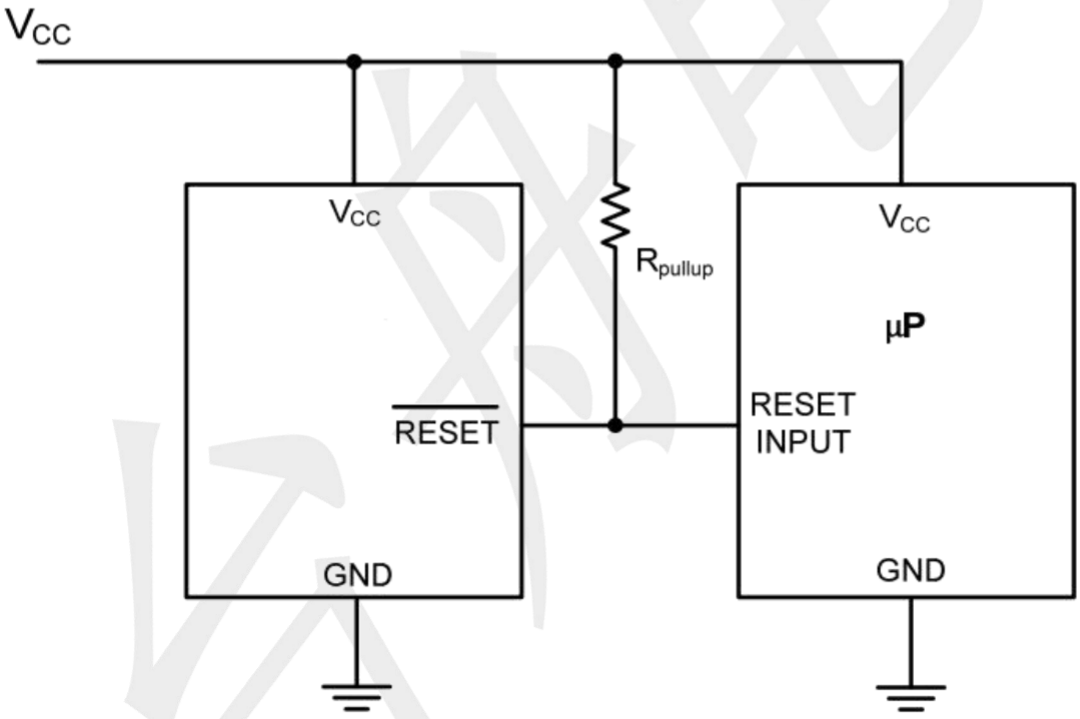
PIN CONFIGURATION

PIN	NAME	FUNCTION
1	GND	Ground
2	$\overline{\text{RESET}}$	$\overline{\text{RESET}}$ 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/μs
PD	Continuous Power Dissipation Derate 4mW/°C above 70°C	320	mW
TA	Operating Temperature Range	-40 to +105	℃
TSTG	Storage Temperature Range	-65 to +150	℃
$R_{\theta JC}$	Thermal Resistance from Junction to Case	110	°C/W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250	°C/W

TYPICAL APPLICATIN CIRCUIT



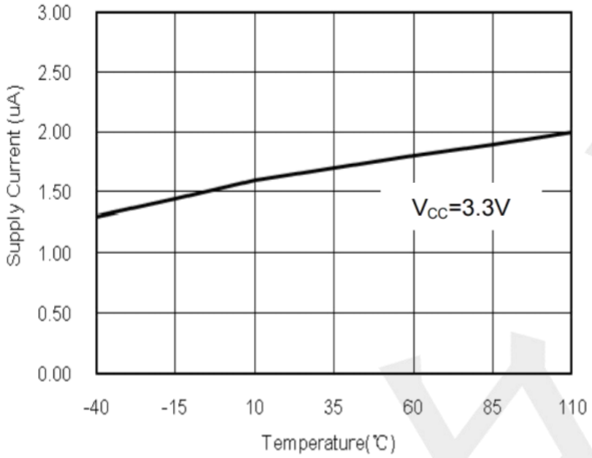
Electrical Characteristics

(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.)

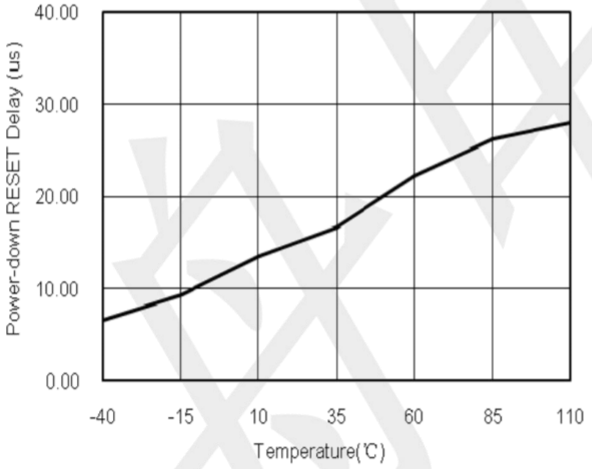
Symbol	Parameter	Conditions		MIN	Typ	MAX	UNIT
VCC	Supply Voltage Range	TA=0°C to +70°C		1.0	--	5.5	V
ICC	Supply Current			--	2.0	--	uA
VTH	Reset Threshold	L Version	TA=+25°C	4.56	4.63	4.70	V
			TA=-40°C to +85°C	4.50	--	4.75	
		M Version	TA=+25°C	4.31	4.38	4.45	
			TA=-40°C to +85°C	4.25	--	4.50	
		J Version	TA=+25°C	3.93	4.00	4.06	
			TA=-40°C to +85°C	3.89	--	4.10	
		T Version	TA=+25°C	3.04	3.08	3.11	
			TA=-40°C to +85°C	3.00	--	3.15	
		S Version	TA=+25°C	2.89	2.93	3.96	
			TA=-40°C to +85°C	2.85	--	3.00	
		R Version	TA=+25°C	2.59	2.63	2.66	
			TA=-40°C to +85°C	2.55	--	2.70	
		Z Version	TA=+25°C	2.28	2.32	2.35	
			TA=-40°C to +85°C	2.25	--	2.38	
	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	$\overline{\text{RESET}}$ 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	
	$\overline{\text{RESET}}$ Open-Drain Output Leakage Current	VCC>VTH, $\overline{\text{RESET}}$ Deasserted		--	--	1	µA

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

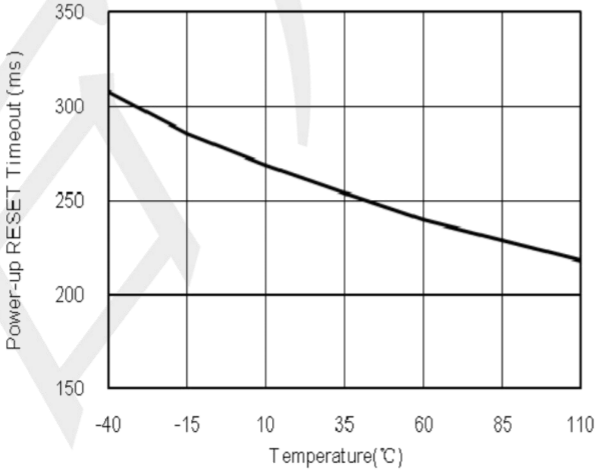
Supply Current vs. Temperature



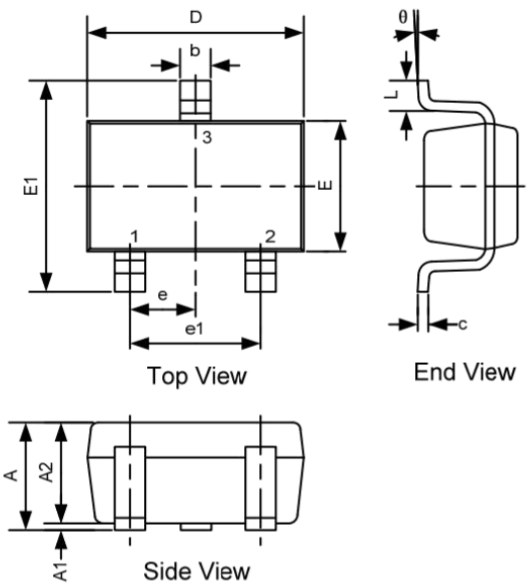
Power-Down RESET Delay vs. Temperature



Power-Up RESET Timeout vs. Temperature

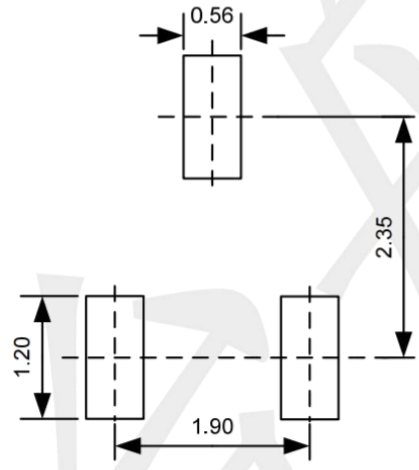


Package information SOT-23



Symbol	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	1.013	1.15	1.40	0.040	0.045	0.055
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	1.00	1.10	1.30	0.039	0.043	0.051
b	0.30	-	0.50	0.012	-	0.020
c	0.10	0.15	0.20	0.004	0.006	0.008
D	2.82	-	3.10	0.111	-	0.122
E	1.50	1.60	1.70	0.059	0.063	0.067
E1	2.60	2.80	3.00	0.102	0.110	0.118
e	0.95REF			0.037REF		
e1	1.90REF			0.075REF		
L	0.30	-	0.60	0.012	-	0.024
θ	0°	-	8°	0°	-	8°

Suggested Pad Layout



NOTES:
1. Compound dimension: 2.92×1.60;
2. Unit: mm;
3. General tolerance ±0.05mm unless otherwise specified;
4. The layout is just for reference.