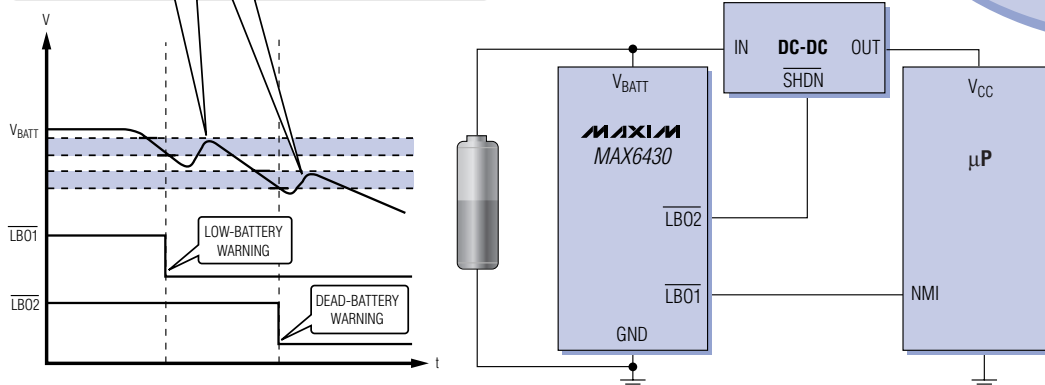


Single-/Dual-Level Battery Monitors with Internal Hysteresis Require No External Components

Eliminate Chattering in Battery-Operated Equipment

WHEN BATTERY LOADS ARE DISCONNECTED, BATTERY VOLTAGE RECOVERS. THE SYSTEM MAY TRY TO POWER-UP AS THE LOAD RECONNECTS, ONLY TO SIGNAL ANOTHER LOW-BATTERY EVENT AND CAUSE CHATTERING.



IDEAL FOR SINGLE LITHIUM OR 2- TO 3-CELL NiMH, NiCd, OR ALKALINE BATTERIES

- **Single/Dual Low-Battery Indicators:**
 - Single (MAX6427*-MAX6429*, MAX6433*-MAX6435*)
 - Dual (MAX6430*-MAX6432*, MAX6436*-MAX6438*)
- 48 Factory-Trimmed Thresholds (MAX6427-MAX6433)
- Integrated Delay Timing (140ms, min)

- Adjustable-Threshold Versions Pin Compatible to MIC2778/MIC2779 (MAX6433-MAX6438)
- Accurate $\pm 2.5\%$ Voltage Thresholds
- Three Low-Battery Output Structures
- Small, SOT23/SOT143 Packages

Highlights in This Issue:

- Lowest Power Battery Monitors with Hysteresis
- Lowest Voltage, Lowest Power SC70 Devices
- Smallest, Lowest Voltage, Multivoltage Solutions Solve Sequencing Issues
- Best SC70/SOT23 Solutions Specified for Automotive Designs

SC70

MULTI-VOLTAGE

AUTO-MOTIVE

For more information visit:
www.maxim-ic.com/supervisors

*Future product—contact factory for availability.

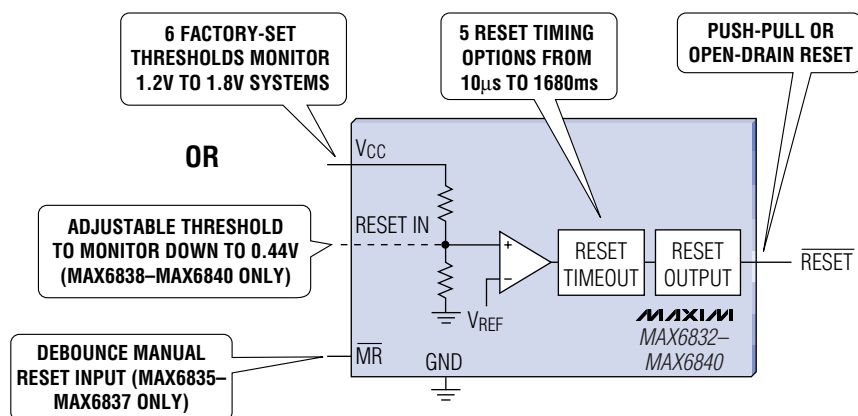
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SC70

First SC70 μ P Supervisory ICs to Monitor 1.2V Without External Components

Small Package, Low Power, and Low Thresholds Ideal for Portable Equipment



Maxim Offers Superior Performance and Flexibility Versus the Competition

Performance:

- 7.5 μ A Supply Current is 55% Less Than Competition
- SC70 Package is 35% Smaller Than Competition's SOT Package

Flexibility:

- Six Threshold Options Monitor 1.2V to 1.8V Systems
- Five Timing Options Meet Processor Requirements
- Adjustable Threshold Monitors Down to 0.44V

- Accurate $\pm 2.5\%$ Threshold Over Temperature
- Guaranteed Valid Reset Down to 0.55V
- Voltage Detector Versions Available
- Pin-Compatible with Industry-Standard MAX803/MAX809/MAX810 and MAX6711-MAX6713

Part	Push-Pull RESET	Push-Pull RESET	Open-Drain RESET	Manual RESET Input (MR)	Adjustable RESET Input
MAX6832	✓				
MAX6833		✓			
MAX6834			✓		
MAX6835*	✓			✓	
MAX6836*		✓		✓	
MAX6837*			✓	✓	
MAX6838	✓				✓
MAX6839		✓			✓
MAX6840			✓		✓

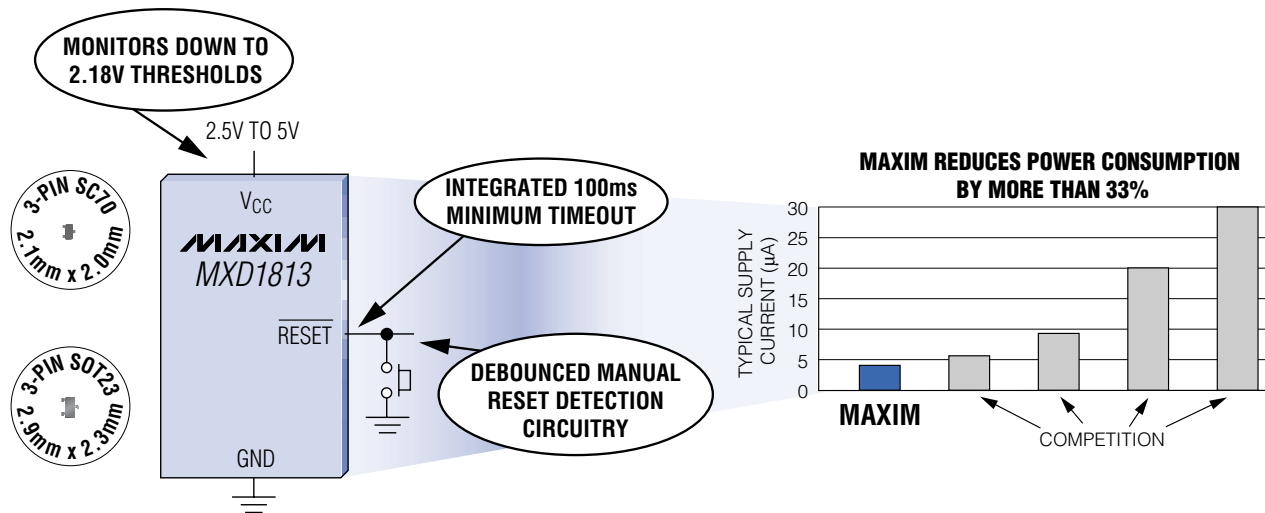
*Future product—contact factory for availability.

µP Supervisory ICs Reduce Power and Board Space by 33%

SC70

New ICs are Upgrades to Industry Standard Supervisors

The MXD1810–MXD1813/MXD1815–MXD1818 are available in both industry-standard SOT23 pinouts for your existing designs, and new SC70 packages for your next-generation designs.



Maxim Beats the Competition 5 Ways:

- 1) Reduce Power by >33%
- 2) SC70 Packaging (vs. SOT23) Reduces Board Space by 35%
- 3) Monitor 2.5V Systems
- 4) Fully Specified from -40°C to +105°C
- 5) Customizable Thresholds Available in 100mV Increments*

Part	Reset Output	Manual Reset Function	Threshold Voltages* (V)	Pin-Package
MXD1810/MXD1815	Push-Pull $\overline{\text{RESET}}$		4.62, 4.37, 4.12 (MXD1810–MXD1813) 3.06, 2.88, 2.55, 2.31, 2.18 (MXD1815–MXD1818)	3-SC70/SOT23
MXD1811/MXD1816	Open-Drain $\overline{\text{RESET}}$			3-SC70/SOT23
MXD1812/MXD1817	Push-Pull RESET			3-SC70/SOT23
MXD1813/MXD1818	Push-Pull RESET	✓		3-SC70/SOT23

*Other threshold voltages may be available. Contact factory for availability.



Get Price, Delivery, and Place Orders Online at

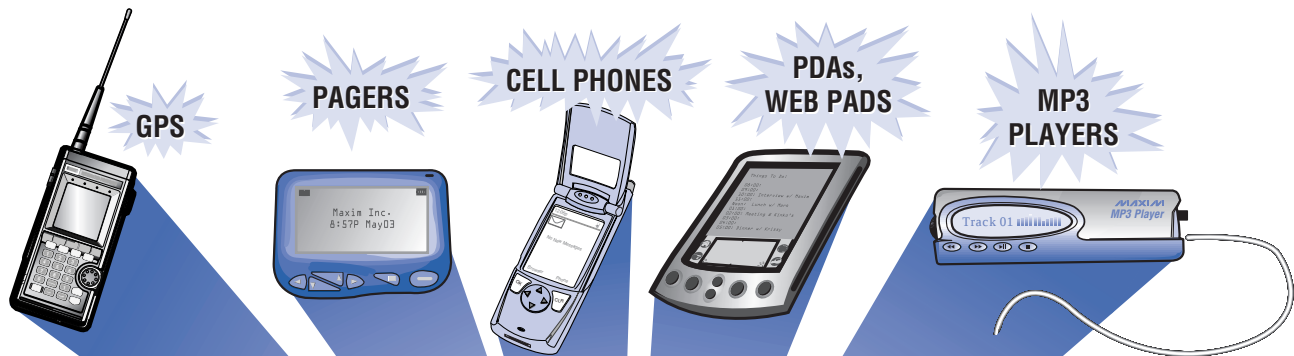
www.maxim-ic.com

SC70

Lowest Voltage, Lowest Power SC70 μ P Supervisory Solutions

Reduce Board Space by Up To 48% over SOT23 Packages

Low Power and Small Size, Ideal for Portable, Battery-Operated Applications



LOWEST POWER:

ULTRA-LOW-POWER VOLTAGE DETECTORS

- 500nA Typical Supply Current
- Thresholds from 2.20V to 4.63V in 100mV Increments (MAX6375–MAX6380)

ULTRA-LOW-POWER μ P SUPERVISORS

- 500nA Typical Supply Current
- Thresholds from 2.20V to 4.63V
- 100ms Minimum Reset Timeout (MAX6326–MAX6328 and the MAX6346–MAX6348)

LOWEST VOLTAGE:

VERSATILE LOW-VOLTAGE μ P SUPERVISORS

- 3 μ A Typical Supply Current
- Thresholds from 1.58V to 4.63V
- Reset Timeouts from 1ms to 1200ms
- Manual Reset Input
- Reset Input for 2nd Voltage
- Fully Specified to +125°C (MAX6381–MAX6390)

ULTRA-LOW-VOLTAGE μ P SUPERVISORS

- Monitors 1.2V to 1.8V Systems
- Adjustable Threshold to Monitor Down to 0.44V
- 5 Reset Timing Options (Including Voltage Detector)
- Manual Reset Input
- Guaranteed Valid Reset Down to 0.55V (MAX6832–MAX6840)

FULLY INTEGRATED ADDITIONAL FEATURES:

μ P SUPERVISORS WITH WATCHDOG MANUAL RESET AND/OR COMPLEMENTARY OUTPUTS

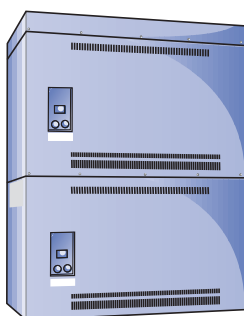
- Low 2 μ A Supply Current
- Manual Reset Input (MAX823/MAX825)
- Watchdog Timer (MAX823/MAX824)
- Complementary Reset Outputs (MAX824/MAX825)

SC70
PACKAGES AS
SMALL AS
2.1mm x 2.0mm

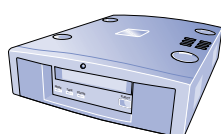
Smallest and Most Integrated μ P Supervisory Solutions for Multivoltage Systems

MULTI-VOLTAGE

Maxim's multivoltage supervisors improve reliability by monitoring dual/triple/quad voltage systems with one IC and minimal external components. Additional features include watchdog timer, manual reset input, power sequencing, and a power-fail comparator. These supervisors' low-voltage operation is ideally suited for next-generation designs in equipment such as telecommunication, networking, and data storage.



TELECOM/NETWORKING SYSTEMS,
CENTRAL OFFICE EQUIPMENT,
PBX SYSTEMS, LINE CARDS,
ROUTERS, HUBS, SWITCHES



DATA STORAGE SYSTEMS,
RAID STORAGE, TAPE BACKUP



COMPUTER
WORKSTATIONS/SERVERS,
DESKTOPS, NOTEBOOKS



PRINTERS, FAXES

HIGHEST INTEGRATION:

- Monitor Dual/Triple/Quad Voltage Systems
- Overvoltage Monitoring Capability
- Power-Supply Sequencing Capability

BEST PERFORMANCE:

- Reset Thresholds from 0.62V to 4.63V
- $\pm 2.5\%$ Threshold Accuracy Over Temperature
- Fully Specified Temperature to $+125^{\circ}\text{C}$

MOST VERSATILITY:

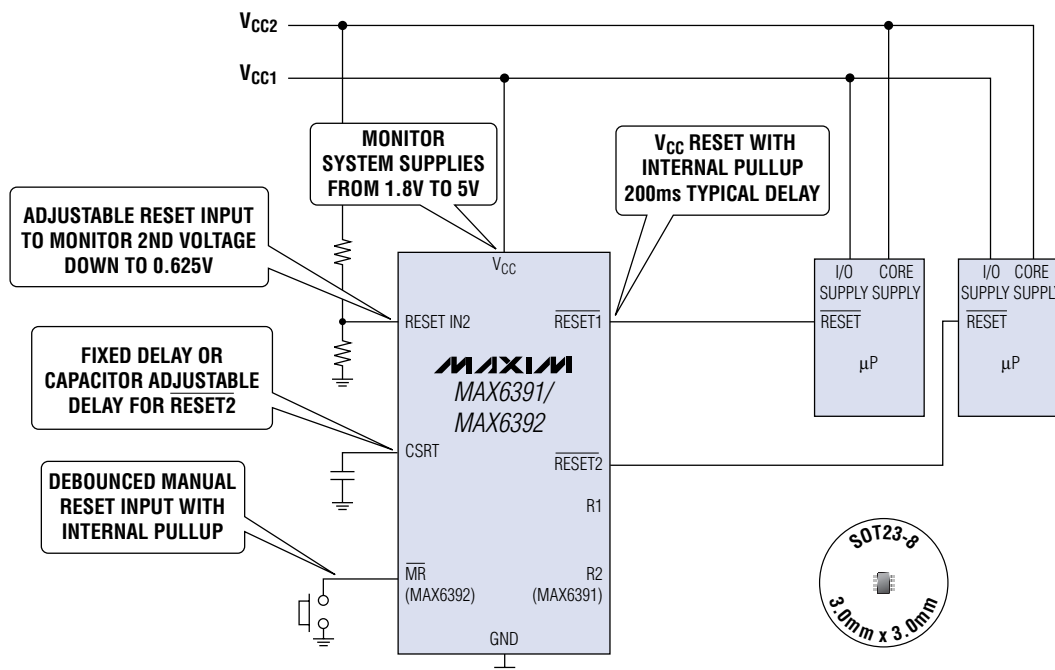
- Three Reset Output Structures
- Reset Timeouts Ranging from 1ms to 1200ms
- Combination of Features Including Watchdog, Manual Reset Input, PFI/PFO

Part	Type	Features	System Voltages	Pin-Package
MAX6305–MAX6313	Dual	Thresholds available in 100mV increments. 4 reset timeout options. Manual reset input (MAX6306/MAX6309/MAX6312).	2.85V to 5V. Adj. voltages down to 1.2V.	5-SOT23
MAX6338/MAX6339	Quad	4 open-drain outputs (MAX6338). One open-drain output with integrated reset timing (MAX6339).	5V, 3V, 2.5V, 1.8V, -5V, or adj. (down to 1.2V).	10- μ MAX/ 6-SOT23
MAX6342–MAX6345	Dual	Integrated power-fail comparator, manual reset input.	2.5V to 5V. PFI/PFO down to 1.2V.	6-SOT23
MAX6351–MAX6360	Dual/Triple	Dual/triple voltage monitoring. Features include manual reset input and/or watchdog timer.	1.8V to 5V. Adj. third voltage down to 1.23V.	5-SOT23/ 6-SOT23
MAX6387–MAX6389	Dual	Thresholds available in 100mV increments. 7 reset timing options. Low 3 μ A supply current.	1.8V to 5V. Adj. secondary voltage down to 1.2V.	4-SC70
MAX6701–MAX6708	Dual/Triple	Monitors dual-/triple-voltage systems. Features include manual reset input, watchdog timer, and power-fail comparator.	System voltages from 2.5V to 5V. Secondary and third voltages down to 0.63V.	8-SOT23
MAX6819/MAX6820	Dual Sequencer	Controls power-supply sequencing for multivoltage systems.	Operates from 0.9V to 5.5V.	6-SOT23
MAX6826/MAX6831	Dual	Includes manual reset input and watchdog timer.	Monitors voltages from 1.8V to 5V. Secondary voltages down to 0.62V.	6-SOT23

MULTI-VOLTAGE

World's First Dual-Voltage μ P Supervisors with Sequenced Reset Outputs

Ensure Proper Operation by Allowing Master Processor to Initialize Prior to Operating a Secondary Processor



Features:

- Internal Fixed Thresholds ($\pm 2.5\%$ Accurate) for Main Power Supply
- Fixed (140ms, min) Reset Timeout for V_{CC}
- Fixed (140ms, min) or Customer Adjustable RESET IN2 Timeout Period
- Low 15 μ A Power Consumption

Reduce Component Count and Increase System Reliability:

- Monitor Two Supply Voltages with Independent Reset Outputs in 8-Pin SOT23
- Sequenced Reset Outputs Allow Master Processor to Fully Initialize Before Allowing a Secondary Processor to Operate
- Internal Pullup Resistors Minimize External Components



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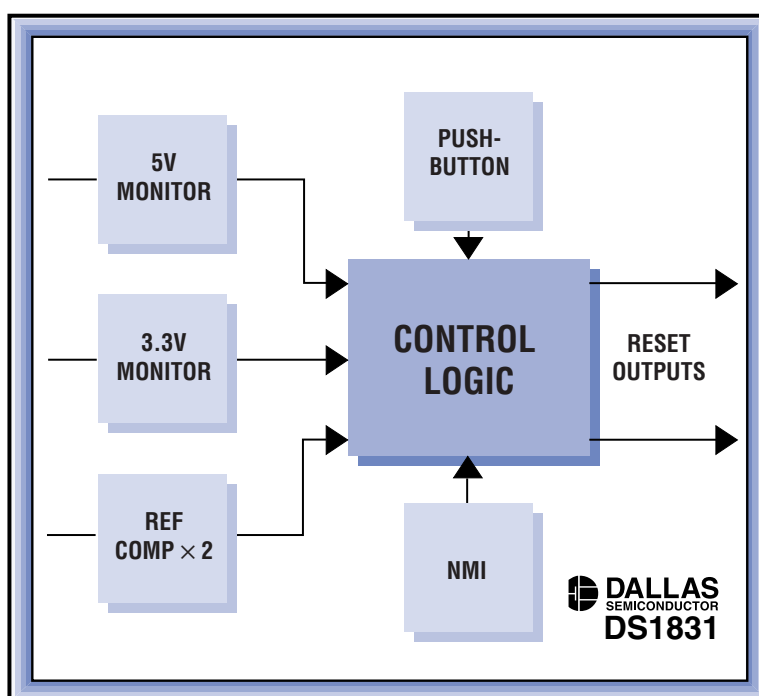


The Multivoltage Supervisor for Multipowered Systems

MULTI-VOLTAGE

The DS1831 multisupply micromonitor is the first monitor that can track four system voltages simultaneously while integrating three manual reset inputs on the same chip. In multivoltage system designs, this solution gives you customized control over individual power supplies while reducing component count, simplifying setup, and saving space. The DS1831 handles complex startups in port adapters, workstations, RAID systems, telecommunication base stations, hub and router equipment, and hot insertion cards.

The DS1831A substitutes a watchdog timer for one of the voltage monitors. The DS1831B replaces the 3.3V pushbutton reset with a last-reset output.



- 5V and 3.3V Power-On Reset
- Two Reference Comparators
- Monitors Up to Four System Voltages
- User-Selectable Reset Times: 10ms, 100ms, or 1s
- Pushbutton and Watchdog Features Available
- Operation Over -40°C to +85°C
- 16-Pin DIP and SO Packages

Choose the Ideal DS1831 Multisupply Micromonitor for Your Application

Part	5V Systems	3.3V Systems	Pushbutton	Reference Comparators	Watchdog Timer Output	Active Low
DS1831	✓	✓	✓	2		✓
DS1831A	✓	✓	✓	1	✓	✓
DS1831B	✓	✓	✓	2		✓

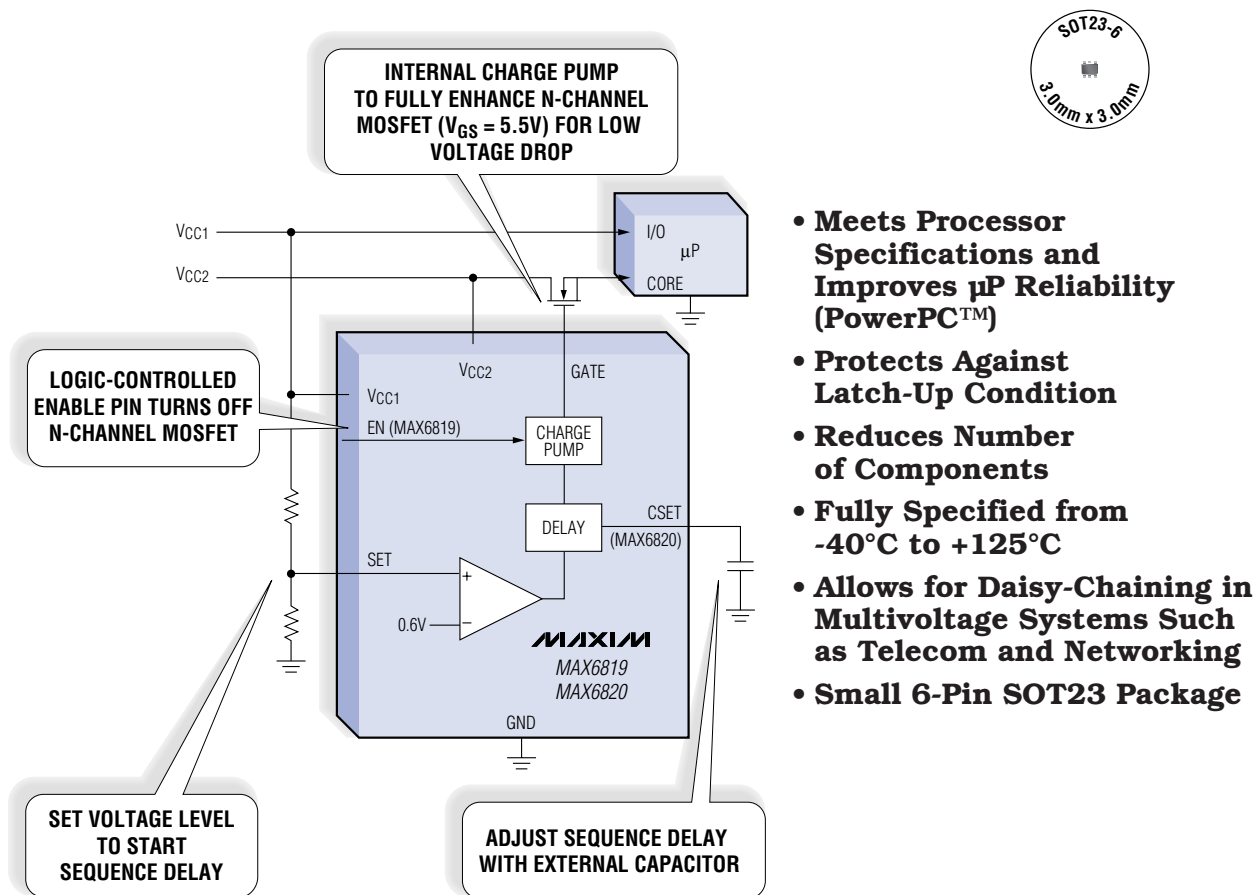
MULTI-VOLTAGE

First SOT23 Power-Sequencing Circuits Improve System Reliability

Address Sequencing Issues in Multivoltage Systems

In many of today's complex system designs, multivoltage operation is necessary to meet power-supply specifications of various system components. Many applications such as networking, data storage, and telecommunications equipment use unsequenced sources from the system bus or a silver-box power supply, causing sequencing issues that affect performance and reliability. To ensure proper system initialization and improve overall reliability, power or reset sequencing may be required so that all local components are biased in the correct order. The MAX6819/MAX6820 provide small, easy-to-implement solutions for this real-world problem.

The MAX6819/MAX6820 control power-supply sequencing for dual-/multivoltage systems. When the primary supply (V_{CC1}) exceeds its set threshold, the internal charge pump activates and provides the gate drive to an external N-channel MOSFET after a fixed 200ms (MAX6819) or an adjustable sequence delay (MAX6820). These devices improve system reliability by ensuring proper system initialization and reducing the number of discrete components required.



PowerPC is a trademark of IBM Corporation.



DALLAS
SEMICONDUCTOR



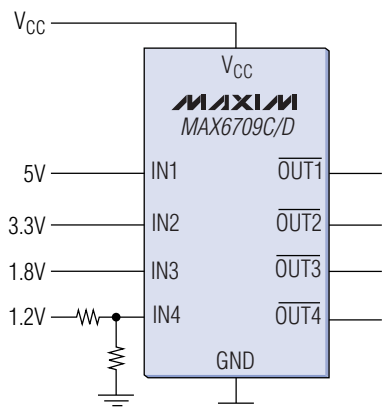


Smallest Quad Voltage μ P Supervisors Monitor Down to 0.6V

MULTI-VOLTAGE

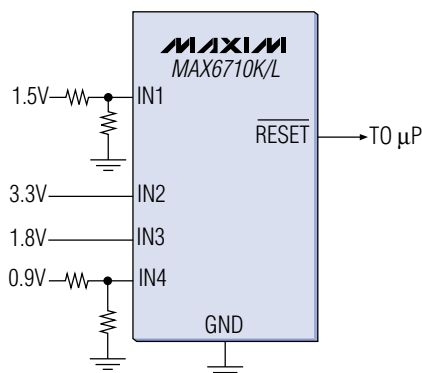
**Fixed Thresholds for Monitoring 5V, 3.3V, 2.5V, and 1.8V;
Adjustable Inputs Monitor Down to 0.62V**

The MAX6700*/MAX6709*/MAX6710*/MAX6714* offer the most flexibility and highest reliability for next-generation, low-voltage designs in networking, telecommunications, servers, and data storage.



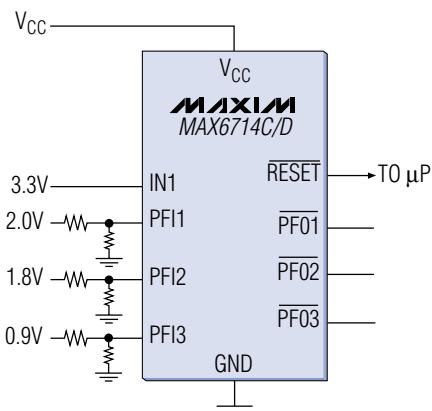
MAX6709 Quad Voltage Monitor

- 4 Independent Voltage Monitors with Open-Drain Outputs
- Internal 10 μ A Pullup Current Eliminates Need for Pullup Resistor
- 15 Threshold Combinations Available
- Available in 10-Pin μ MAX Package



MAX6710 Quad Voltage μ P Supervisor with Integrated Reset Timing

- Single, Open-Drain Reset Output
- 140ms (min) Reset Timeout
- Internal 10 μ A Pullup Current Eliminates Need for Pullup Resistor
- 15 Threshold Combinations Available
- Available in 6-Pin SOT23 Package
- MAX6700: Adjustable Triple Voltage Monitor with Single, Open-Drain Output (No Reset Timing)



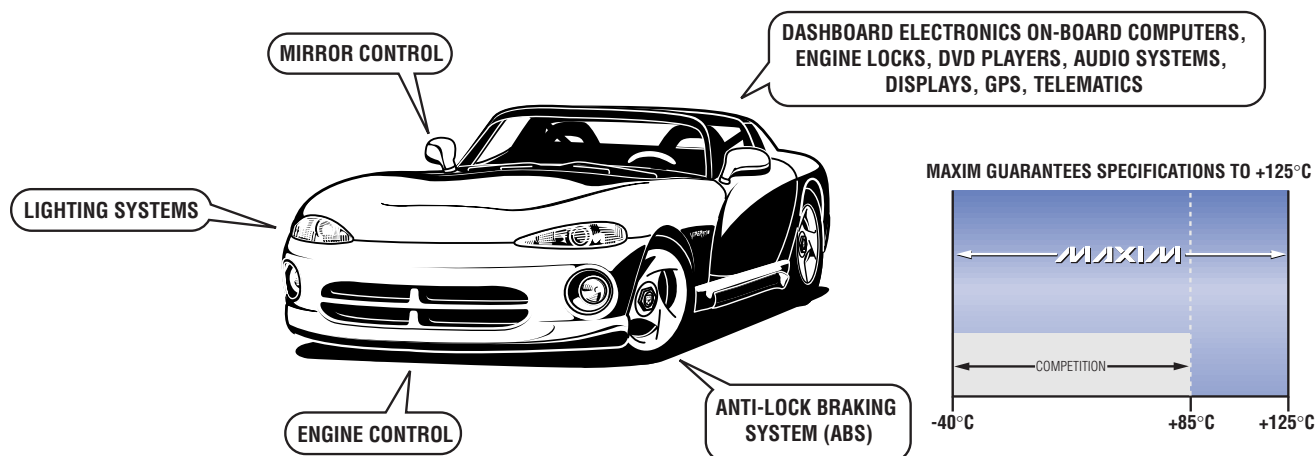
MAX6714 μ P Reset Circuit with Three Power-Fail Comparators

- System Reset for 3.3V and 5V Systems
- 3 Power-Fail Comparators Monitor Voltages Down to 0.62V
- Open-Drain Reset and Power-Fail Outputs
- 4 Threshold Options Available
- Available in 10-Pin μ MAX Package

*Future product—contact factory for availability.

SOT23/SC70 μ P Supervisors

Guaranteed to +125°C Ensure Highest Reliability For Automotive Applications



Simple Reset μ P Supervisors:

- MAX6332–MAX6337: Monitors 1.8V/2.5V with Manual Reset
- MAX821/MAX822: Selectable Timeout
- MAX6831–MAX6390: SC70 with MR Input, Auxiliary Reset Input, Multiple Thresholds and Timing Options
- MAX6800–MAX6805: Reset Timeout of 1ms, 20ms, or 100ms

Reset μ P Supervisors with Watchdog Timers:

- MAX6323/MAX6324: Windowed (min/max) Watchdog Timer
- MAX6369–MAX6374: Pin-Selectable Watchdog Timer
- MAX6821–MAX6825: 1.8V to 5V Operation, 3 Reset Output Options, Manual Reset, or Complementary Outputs

Multivoltage Reset Circuits:

- MAX6342–MAX6345: Includes Power-Fail Comparators
- MAX6701–MAX6708: Dual/Triple Voltages, Down to 0.63V with Watchdog and Manual Reset Input
- MAX6819/MAX6820: Power-Supply Sequencer Circuit
- MAX6826–MAX6831: Dual Voltage Monitors Down to 1.8V/0.9V Without External Components

µP Supervisory Circuits

Part Number	Nominal Reset Threshold (V)	Minimum Reset Pulse Width (ms)	Push-Pull RESET Output	Push-Pull RESET Output	RESET Output	Open-Drain RESET Output	Bidirectional RESET Output	Nominal Watchdog Timeout Period(s), If Available	Separate Watchdog Output	Backup- Battery Switch	OE Write Protection	Power-Fail Comparator/ Reset Input	Manual- Reset Input	Low-Line Output	Battery-On Output	Supply Current in Operating Mode (µA) max (typ)	Pin-Package	Price† 1000-up (\$)
HIGH-ACCURACY RESET ICs (1.0%, 1.5%)																		
MAX801LN/M	4.68/4.58/4.43	140	✓/±1.5%	✓/±1.5%				1.6	✓	✓	✓/8ns	✓		✓		110 (68)	8	3.17
MAX807LN/M	4.68/4.58/4.43	140	✓/±1.5%	✓/±1.5%				1.6	✓	✓	✓/8ns	✓		✓	✓	110 (70)	16	3.29
MAX808LN/M	4.68/4.58/4.43	140	✓/±1.5%	✓/±1.5%				—		✓	✓/8ns			✓		90 (48)	8	3.17
MAX814KL/N/T	4.80/4.70/4.55/3.03	140	✓/±1%	✓/±1%				—				✓/±2%	✓	✓		75	8	4.39
MAX815KL/N/T	4.80/4.70/4.55/3.03	140	✓/±1%	✓/±1%				1.6	✓			✓/±2%	✓	✓		75	8	4.74
MAX816	Adj	140	✓/±1%	✓/±1%				—				✓/±2%	✓	✓		75	8	4.39
BATTERY SWITCHOVER ICs																		
DS1236/A (DS1239)	4.37/4.62	25	✓	✓	DS1236/A			400	✓	✓	✓	✓				4000	16	4.25
DS1238/A	4.37/4.62	40/adj	✓	✓	✓			170ms/2.7 adj.	✓	✓	✓	✓				4000	16	4.25
DS1632	4.37/4.62	95/190	✓	✓	✓			—		✓		✓				2000 (500)	16	3.03
DS1836A/B/C/D	2.72/2.88/4.37/4.63	200	✓	✓	✓			—		✓		✓				40 (25)	8	2.28
MAX7937/S/R	3.08/2.93/2.63	140	✓	✓	✓			1.6	✓	✓	✓	✓		✓	✓	60 (46)	16	3.48
MAX794	Adj	140	✓	✓	✓			1.6	✓	✓	✓	✓		✓	✓	60 (46)	16	3.48
MAX7957/S/R	3.08/2.93/2.63	140	✓	✓	✓			—		✓	✓			✓	✓	50 (35)	8	3.41
MAX6361/2/3/4	4.63/4.38/3.08/2.93/2.63/2.33	150	✓	✓	✓			6362 (1.6)		✓		6364	6361		6363	30 (10)	6-SOT	1.50**
MAX6365/6/7/8	4.63/4.38/3.08/2.93/2.63/2.33	150	✓	✓	✓			6366 (1.6)		✓	✓	6368	6365		6367	30 (10)	8-SOT	1.88**
RESET + WATCHDOG ICs																		
DS1832	2.55/2.88	250	✓	✓				0.15/0.60/1.2	✓				✓			35	8	1.17
DS1814/19A/B	4.63/4.38/3.08/2.93/2.63	140	✓	✓	(B only)			1.6				✓				12 (8)	5	0.72
MAX923L/MT/S/R/Z/Y, MAX924L/MT/S/R/Z/Y	4.63/4.38/3.08/2.93/2.63/2.32/2.19	140	✓	✓	824			1.6				823				12 (5)	5-SOT/ SC70	1.20**
MAX6301/2/3/4	Adj	Adj	6303	6304	6301/2			Adj								7 (4)	8	1.51
MAX6316L/M	2.5 to 5.0 customized	1 to 1120 customized	(L only)	✓			M only	0.0063 to 25.6 customized				✓				12 (5)	5-SOT	1.20**
MAX6317H	2.5 to 5.0 customized	1 to 1120 customized		✓				0.0063 to 25.6 customized				✓				12 (5)	5-SOT	1.20**
MAX6318LH/MH	2.5 to 5.0 customized	1 to 1120 customized	LH only	✓			MH only	0.0063 to 25.6 customized								12 (5)	5-SOT	1.20**
MAX6320P/ MAX6321HP	2.5 to 5.0 customized	1 to 1120 customized			6321	✓		0.0063 to 25.6 customized					6320			12 (5)	5-SOT	1.20**
MAX6323/4	4.63/4.38/3.08/2.93/2.63/2.33	100	6323	6324	6324			Customized (window)	✓			✓				35 (23)	6-SOT	1.50**
MAX6821/2/3/4	4.63/4.38/3.08/2.93/2.63/2.32/2.19/1.67/1.58	140	6823/4	6821/4	6822			1.6					6821/2/3			—	5-SOT	1.15**
RESET + MANUAL RESET ICs																		
DS1233/A/D	4.625/4.375/4.125/2.72/2.88	250		✓	✓			—					✓			50	3/4	0.72
DS1813/18	4.62/4.35/4.13/3.06/2.88/2.55	100		✓	✓			—					✓			40 (30)	3	0.58

For a complete listing of devices, visit us at www.maxim-ic.com.

† Prices provided are for design guidance and are FOB USA (unless otherwise noted). Please contact your local sales office for volume pricing. International prices will differ due to local duties, taxes, and exchange rates. Not all packages are offered in 1k increments, and some may require minimum order quantities.

** 2500 pc. factory-direct price, FOB USA. Factory-direct orders are accepted only in multiples of 2500 or 10,000 pieces (smaller quantities are available from distributors).

µP Supervisory Circuits (continued)

Part Number	Nominal Reset Threshold (V)	Minimum Reset Pulse Width (ms)	Push-Pull Output	Push-Pull Output	RESET Output	Open-Drain Output	Bidirectional RESET Output	Nominal Watchdog Timeout Period(s), if Available	Separate Watchdog Output	Backup-Switch	CE Write Protection	Power-Fail Comparator/Reset Input	Manual-Reset Input	Low-Line Output	Battery-On Output	Supply Current in Operating Mode (µA) max (typ)	Pin-Package	Price [†] 1000-up (\$)
RESET + MANUAL RESET ICs																		
DS1814/19A/C	4.63/4.38/3.08/2.93/2.63	140	✓	✓	✓	(C only)		1.6 (A only)					✓			12 (8)	5	0.72
MAX825L/MTT/S/R/ZY	4.63/4.38/3.08/2.93/2.63 2.32/2.19	140	✓	✓	✓			—					✓			8 (3)	5-SOT/ SC70	1.15**
MAX6319LH/IMH	2.5 to 5.0 customized	1 to 1120 customized	LH only	✓	✓		MH only	—					✓			12 (5)	5-SOT	1.20**
MAX6322HP	2.5 to 5.0 customized	1 to 1120 customized		✓	✓			—					✓			12 (5)	5-SOT	1.20**
MAX6335/6/7	1.6 to 2.5 customized	1, 20, 100 customized	6336	6335	6337			—					✓			7 (3.3)	4-SOT	1.05**
MAX6384/5/6/90	1.58 to 4.63 customized	1 to 1200 customized	6384	6385	6386/ 6390			—					✓			6 (3)	4-SC70	0.96**
MAX6400/1/2	2.20 to 3.08 customized	100	6400	6401	6402			—					✓			1 (0.5)	4-UCSP	0.98**
MAX6403/4/5	3.30 to 4.63 customized	100	6403	6404	6405			—					✓			1.75 (1)	4-UCSP	0.98**
MAX6711/2/3	4.63/4.38/3.08/2.93/ 2.63/2.33	140	6711	6712	6713			—					✓			30 (12)	4-SC70	0.98**
MAX6803/4/5	2.63 to 4.80 customized	1, 20, or 100	6805	6803	6804			—					✓			10 (4)	4-SOT 143	0.98**
MAX6835/6/7	1.665/1.575/1.388/ 1.313/1.110/1.050	1, 20, 140, 1120	6835	6836	6837								✓			13 (7.5)	4-SC70	0.96**
MXD1813/18	4.62/4.37/4.12/3.06/ 2.88/2.55/2.31/2.18	100			✓								✓			10 (4)	3-SOT23/ SC70	1.00**
RESET ICs																		
DS1810/11/12/15/16/17	4.62/4.37/4.12/3.06/ 2.88/2.55	100	1810/15	1812/17	1811/16			—								40 (30)	3-SOT	0.58
DS1833	4.125/4.375/4.625	250			✓			—								50	3-TO92/ 4-SOT23	1.26
MAX803L/MTT/S/R/Z	4.63/4.38/3.08/2.93/ 2.63/2.33	140			✓			—								30 (12)	3-SC70	0.94**
MAX809L/M/J/T/S/R/Z, MAX810L/MTT/S/R/Z	4.63/4.38/4.00/3.08/ 2.93/2.63/2.33	140	809	810				—								30 (12)	3-SOT/ SC70	0.98**
MAX821L/M/P/T/S/U/R, MAX822L/MTT/S/R	4.63/4.38/4.00/3.08/ 2.93/2.78/2.63	0.5 to 100	821	822				—								9 (1.8)	4-SOT	0.99**
MAX6314/5	2.5 to 5.0 customized	1 to 1120 customized			6315	6314		—					✓			12 (5)	4-SOT	0.99**
MAX6326/7/8	2.2 to 3.08 customized	100	6326	6327	6328			—								1 (0.5)	3-SOT/ SC70	0.99**
MAX6332/3/4	1.6 to 2.5 customized	1, 20, 100 customized	6333	6332	6334			—								7 (3.3)	3-SOT	0.98**
MAX6346/7/8	3.3 to 4.63 customized	100	6346	6347	6348			—								1.75 (1)	3-SOT, 3-SC70	0.99**

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µP Supervisory Circuits (continued)

Part Number	Nominal Reset Threshold (V)	Minimum Reset Pulse Width (ms)	Push-Pull RESET Output	Push-Pull RESET Output	RESET Output	Open-Drain RESET Output	Bidirectional RESET Output	Nominal Watchdog Timeout Period(s), If Available	Separate Watchdog Output	Backup-Battery Switch	OE Write Protection	Power-Fail Comparator/Reset Input	Manual-Reset Input	Low-Line Output	Battery-On Output	Supply Current in Mode (µA) max (typ)	Pin-Package	Price † 1000-up (\$)
RESET ICs (continued)																		
MAX6381/2/3	1.6 to 4.63 customized	1, 20, 140, 280, 560, 1120, 1200	6381	6382	6383			—								6 (3)	3-SC70	0.96**
MAX6800/1/2	2.63 to 4.80 customized	1, 20, or 100	6801	6800	6802			—								10 (4)	3-SOT	0.98**
MAX6832/33/34	1.665/1.575/1.388/ 1.313/1.110/1.050	1, 20, 140, 1120	6832	6833	6834			—								13 (7.5)	3-SC70	0.96**
MAX6838/39/40	Adjustable down to 0.44V	1, 20, 140, 1120	6838	6839	6840			—								13 (7.5)	4-SC70	0.96**
MXD1810/11/12/ 15/16/17	4.62/4.37/4.12/3.06/ 2.88/2.55/2.31/2.18	100	1810/15	1812/17	1811/16			—								10 (4)	3-SOT23/ 3-SC70	1.00**
MULTIPLE-VOLTAGE RESET ICs																		
DS1830/A/B	4.02/4.37/4.13/3.06/ 2.88/2.55/2.31/2.18/2.062	10/50/100/20/ 100/200/500/250/500			✓ (3, sequenced)	—		—		—			✓			6 (3)	8-DIP/8-SO/ 8-µSOP	1.33
DS1831/A/B/C/D/E (Quad)	4.63/4.38/4.15/3.06/ 2.88/2.55	10/100/1000			✓			16/160/1600	✓			✓				85 (60)	16	2.85
DS1834 (Dual)	4.63/4.38/2.88/2.55	200			✓								✓			35	8	1.35
MAX6305/08/11 (Dual)	Adjustable	1 to 1120 customized	6308	6311	6305											16 (8)	5-SOT	1.20**
MAX6306/07/09/10/ 12/13 (Dual)	2.5 to 5.0 customized	1 to 1120 customized	6309/ 6310	6312/ 6313	6306/ 6307											16 (8)	5-SOT	1.20**
MAX6339 (Quad)	4.63/4.38/3.08/2.93/ 2.78/2.63/2.19/1.58/ -4.63/-4.38/adj	140			✓			—								40 (25)	6-SOT	1.88**
MAX6342/43L/MT/SR/Z MAX6344/45L/MT/SR/Z (Dual)	4.63/4.38/3.08/2.93/ 2.63/2.33	100	6342/5	6344/5	6343			—				✓	6306/09/ 12			40 (25)	6-SOT	1.23**
MAX6351 (Dual)	4.63/4.38/3.08/2.93/ 2.63/2.19/1.67/1.58	100	✓ (5V, 3V)					—					✓			50 (20)	5-SOT	1.38**
MAX6352/3/4 (Dual)	4.63/4.38/3.08/2.93/ 2.63/2.19/1.67/1.58	100	6353 (5V) 6354 (3V)					—					✓			50 (20)	5-SOT/ 6-SOT	1.38**
MAX6355/6 (Dual) MAX6357 (Triple)	4.63/4.38/3.08/2.93/ 2.63/2.19/1.67/1.58	100	6356 (5V) 6357 (3V)		6355			—					✓			50 (20)	6-SOT	1.38**
MAX6358/59/60 (Dual)	4.63/4.38/3.08/2.93/ 2.63/2.19/1.67/1.58	100	6359 (5V) 6360 (3V)		6358			2.9					✓			50 (20)	6-SOT	1.38**
MAX6387/8/9 (Dual)	1.58 to 4.63 customized	1 to 1200 customized	6387	6388	6389			—				✓				6 (3)	4-SC70	0.96

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µP Supervisory Circuits (continued)

Part Number	Nominal Reset Threshold (V)	Minimum Reset Pulse Width (ms)	Push-Pull RESET Output	Push-Pull RESET Output	Open-Drain RESET Output	Bidirectional RESET Output	Nominal Watchdog Timeout Period(s), If Available	Separate Watchdog Output	Backup-Switch	CE Write Protection	Power-Fail Comparator/Reset Input	Manual-Reset Input	Low-Line Output	Battery-On Output	Supply Current in Operating Mode (µA) max (typ)	Pin-Package	Price† 1000-up (\$)
MULTIPLE-VOLTAGE RESET ICs (continued)																	
MAX6391 (Dual)	4.63/4.38/3.08/2.93/2.63/2.32/2.19/1.67/1.58/Adjustable	140 or adjustable			RESET1, RESET2 (sequenced)										25 (15)	8-SOT23	1.50**
MAX6392 (Dual)	4.63/4.38/3.08/2.93/2.63/2.32/2.19/1.67/1.58/Adjustable	140 or adjustable	RESET1		RESET2 (sequenced)						✓				25 (15)	8-SOT23	1.50**
MAX6826/7/8 (Dual)	4.63/4.38/3.08/2.93/2.63/2.32/2.19/1.67/1.58/Adjustable	140	6826	6827	6828	—	1.6	—	—	—	✓	✓	—	—	16 (7)	6-SOT	1.73**
MAX6829/30/31 (Dual)	0.9 to 4.63 customized	140	6829	6830	6831	—	1.6	—	—	—	✓	✓	—	—	16 (7)	6-SOT	1.73**
MAX6701/2/3 (Triple)	4.63/4.38/3.08/2.93/2.63/2.32/2.19	140	6701	6702	6703		1.6	✓			✓ (2)	✓			20 (9)	8-SOT	1.38**
MAX6704/8 (Dual)	4.63/4.38/3.08/2.93/2.63/2.32/2.19	140	✓	✓			1.6 (6704)				✓	✓			20 (9)/30 (6)	8-SOT	1.38**
MAX6705/6/7 (Dual)	4.63/4.38/3.08/2.93/2.63/2.32/2.19	140	6705	6706	6707		1.6	✓			✓	✓			20 (9)	8-SOT	1.38**
WATCHDOG ICs																	
MAX6323/4	4.63/4.38/3.08/2.93/2.63/2.33	100	6323		6324		Customized (window)	✓				✓			35 (23)	6-SOT	1.50**
MAX6369/70/71/72/73/74			6370/2/4 ✓(WDO)		✓(WDO)		Selectable and mixed mode	✓							20 (10)	8-SOT	0.98**

Integrated Regulator and Reset ICs

Part Number	Type of Regulator	Output Voltage (V)	Quiescent Supply Current (µA)	Maximum Output Current (mA)	Nominal Reset Threshold (V)	Minimum Reset Pulse Width (ms)	Push-Pull RESET Output	Push-Pull RESET Output	Push-Pull RESET Output	Open RESET Output	Other Features	Pin-Package	Price† 1000-up (\$)
MAX6330/31/L/T/S	Shunt	5/3.3/3	100	50	4.63/3.06/2.78	100		MAX6330	MAX6331		SHDN/MR	3-SOT	1.19**
MAX6329/49	Linear	3.3/2.5/1.8/adj	25	150	3.08/2.93/2.32/2.19/1.67/1.58	140	✓			✓		6-SOT	1.38**

Power-Supply Sequencers

Part Number	Operating Voltage Range (V)	Supply Current (µA), max (typ)	Delay (ms)	Logic Enable	Set Threshold	Pin-Package	Price† 1000-up (\$)
MAX6819/20	0.9 to 5.5	60	200/adj	Yes	Yes	6-SOT23	1.50**

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Switch Debouncers

Part Number	No. of Bouncing Inputs	Max Switch Input Voltage (V)	ESD Protection (kV)	Supply Current (mA), max (typ)	Pin-Package	Temp. Ranges*	Description	Price† 1000-up (\$)
MAX6816/17/18	1/2/8	±25	±15	20 (6)	4-SOT143/6-SOT23/20-SSOP	E	Single/dual/octal	0.99**/1.48**/2.72

Voltage Detectors

Part Number	Supply Voltage (V)	Supply Current (µA), max (typ)	Threshold Accuracy (%)	Pin-Package	Temp. Ranges*	Description	Price† 1000-up (\$)
MAX836/7	2.5 to 11	10 (3.5)	±1.25	SOT143	E	Noninverting open-drain/push-pull output	0.90**
MAX6338	2.5 to 5.5	50 (25)	±2.5	µMAX	E	Quad-voltage monitor, 4 active-low open-drain outputs	2.50**
MAX6375/6/7	1 to 5.5	1 (0.5)	±1.5	3-SC70	E	Ultra-low-power voltage detector, active-low push-pull output, active-high push-pull or active-low open-drain output (2.5V, 3V, 3.3V)	0.90**
MAX6378/79/80	1 to 5.5	1.75 (1)	±1.5	3-SC70	E	Ultra-low-power voltage detector, active-low push-pull output, active-high push-pull or active-low open-drain output (5V)	0.90**
MAX6406/7/8/9/10/11	1 to 5.5	1 (0.5), 60 (35)	±1.5, ±2	4-UCSP	E	Ultra-low-power voltage detector push-pull OUT, push-pull OUT, open-drain OUT (2.5V, 3V, 3.3V), (5V)	0.99
MAX6806/8	1 to 5.5	60 (35)	±2	3-SC70, 3-SOT23, SOT143	E	Miniature voltage detector, active-low push-pull open-drain output	0.87**
MAX6807	1 to 5.5	60 (35)	±2	3-SC70, 3-SOT23, SOT143	E	Miniature voltage detector, active-high push-pull output	0.87**
MAX6832/3/4	0.55 to 3.6	13 (6.5)	±2.5	3-SC70	E	Ultra-low voltage detectors. Active-low push-pull output, active-high push-pull output, or active-low open-drain output.	0.96**
MAX6835/6/7	0.55 to 3.6	13 (6.5)	±2.5	4-SC70	E	Ultra-low voltage detectors. Active-low push-pull output, active-high push-pull output, or active-low open-drain output. Integrated manual reset input.	0.96**
MAX6838/39/40	0.55 to 3.6	13 (6.5)	±2.5	4-SC70	E	Ultra-low voltage detectors with adjustable threshold to monitor down to 0.44V. Three output types are available.	0.96**

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* Temperature Ranges: C = 0°C to +70°C, E = -40°C to +85°C, M = -55°C to +125°C.
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