

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Features

- Qualified for Automotive Applications
 - AEC-Q100 Grade 1: $T_A = -40^{\circ}\text{C}$ to 125°C
- Wide-Supply Voltage Range: 1.6 V to 5.5 V
- Low Supply Current $I_{DD} = 10\ \mu\text{A}$ (Typical)
- Programmable Watchdog Timeout
- Programmable Reset Delay Time
- Precision Overvoltage and Undervoltage Monitoring
 - Support Common Rails from 0.9 V to 5.0 V
 - 1% Voltage Threshold Accuracy
- Window Watchdog Timeout
 - Window Ratio Programmable
- Watchdog Enable/Disable
- Open-drain Active Low $\overline{\text{RESET}}$ and $\overline{\text{WDO}}$ Output
- Green Product, DFN3x3-10 Package

Applications

- Automotive Cabin
- T-box
- Radar
- BCM
- Infotainment

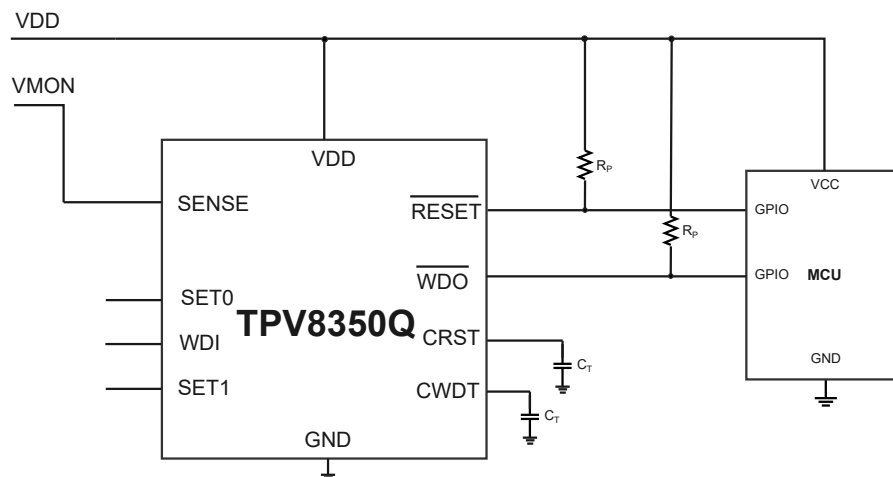
Description

The TPV8350Q is an auto-grade precision supervisor with a programmable window watchdog timer. It monitors a voltage rail from 0.9 V to 5 V for both undervoltage and overvoltage on the SENSE pin. It can achieve 1% monitor accuracy, which is ideal for a tight tolerance system. The TPV8350Q $\overline{\text{RESET}}$ delay time can be set by factory-programmed settings or by an external capacitor.

The TPV8350Q includes a programmable window watchdog timer. The watchdog timeout period can be set by factory-programmed settings or by an external capacitor. The window ratio can be set by the SET0 and SET1 pins. When an undesired watchdog timeout happens, the $\overline{\text{WDO}}$ asserts low for the reset delay time.

The TPV8350Q is available in a DFN3x3-10 package with wettable flanks for easy optical inspection.

Typical Application Circuit



**Auto Grade Precision Voltage Supervisor with Programmable
Window Watchdog Timer****Table of Contents**

Features.....	1
Applications.....	1
Description.....	1
Typical Application Circuit.....	1
Product Family Table.....	3
Revision History.....	3
Pin Configuration and Functions.....	4
Specifications.....	6
Absolute Maximum Ratings	6
ESD, Electrostatic Discharge Protection.....	6
Thermal Information.....	6
Electrical Characteristics.....	7
Typical Performance Characteristics.....	10
Detailed Description.....	13
Overview.....	13
Functional Block Diagram.....	13
Feature Description.....	14
Application and Implementation.....	16
Application Information	16
Tape and Reel Information.....	17
Package Outline Dimensions.....	18
DFN3X3-10-WET-C.....	18
Order Information.....	19
IMPORTANT NOTICE AND DISCLAIMER.....	20

**Auto Grade Precision Voltage Supervisor with Programmable
Window Watchdog Timer****Product Family Table**

Order Number	Under Voltage Threshold (V_{IT_UV})	Nominal Monitored Voltage	Over Voltage Threshold (V_{IT_OV})	Marking
TPV8350ADQ-DN2R-S ⁽¹⁾	0.4 V	Adjustable	/	5ADQ
TPV8350JQ-DN2R-S ⁽¹⁾	0.79 V	0.85 V	0.91 V	50JQ
TPV8350UQ-DN2R-S ⁽¹⁾	1.12 V	1.2 V	1.28 V	50UQ
TPV8350VQ-DN2R-S ⁽¹⁾	1.615 V	1.8 V	1.985 V	50VQ
TPV8350WQ-DN2R-S ⁽¹⁾	1.67 V	1.8 V	1.93 V	50WQ
TPV8350ZQ-DN2R-S ⁽¹⁾	2.33 V	2.5 V	2.68 V	50ZQ
TPV8350RQ-DN2R-S ⁽¹⁾	2.64 V	3 V	3.36 V	50RQ
TPV8350PQ-DN2R-S ⁽¹⁾	2.79 V	3 V	3.21 V	50PQ
TPV8350OQ-DN2R-S ⁽¹⁾	2.88 V	3 V	3.12 V	50OQ
TPV8350SQ-DN2R-S ⁽¹⁾	2.94 V	3.3 V	3.7 V	50SQ
TPV8350TQ-DN2R-S	3.07 V	3.3 V	3.53 V	50TQ
TPV8350NQ-DN2R-S ⁽¹⁾	3.17 V	3.3 V	3.43 V	50NQ
TPV8350MQ-DN2R-S ⁽¹⁾	4.4 V	5 V	5.6 V	50MQ
TPV8350LQ-DN2R-S ⁽¹⁾	4.65 V	5 V	5.35 V	50LQ
TPV8350KQ-DN2R-S ⁽¹⁾	4.8 V	5 V	5.2 V	50KQ

(1) For future products, contact the 3PEAK factory for more information and samples.

Revision History

Date	Revision	Notes
2025-05-19	Rev.A.0	Released version

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Pin Configuration and Functions

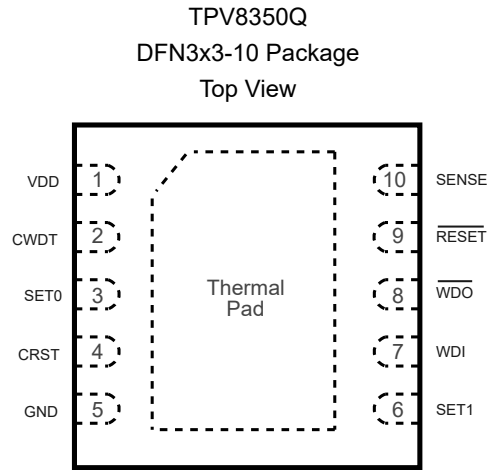


Table 1. Pin Functions: TPV8350Q

Pin	Name	I/O	Description
1	VDD	P	Supply Voltage. A 0.1-μF ceramic capacitor was placed as close as to the VDD pin.
2	CWDT	I	Watchdog Timeout Program Pin. Connecting this pin to VDD through a 10 kΩ resistor or leaving it open results in fixed reset delay times. Connecting this pin to ground referenced capacitor gives a user-programmable watchdog timeout. The watchdog timeout set above is upper boundary of window watchdog, the lower boundary is set by SET0 and SET1 pins.
3	SET0	I	Logic input. SET0 and SET1 select the window watchdog ratios, and disable the watchdog.
4	CRST	I	Reset Delay Time Program Pin. Connecting this pin to VDD through a 10 kΩ resistor or leaving it open results in fixed reset delay times. Connecting this pin to ground referenced capacitor gives a user-programmable reset delay time.
5	GND	G	Ground. This pin should be connected to the ground reference.
6	SET1	I	Logic input. SET0 and SET1 select the window watchdog ratios, and disable the watchdog.
7	WDI	I	Watchdog input. A falling edge must occur at this pin between the lower boundary and upper window boundary in order for $\overline{WDO}$ not asserted.
8	$\overline{WDO}$	O	Watchdog output. This pin is an active low open-drain output. Connect this pin to VDD through a 1kΩ to 10kΩ resistor. When a watchdog timeout occurs, $\overline{WDO}$ goes low for the reset delay time.
9	$\overline{RESET}$	O	$\overline{RESET}$ Output. This pin is an active low open-drain output. Connect this pin to VDD through a 1-kΩ to 10-kΩ resistor. It is driven to a low impedance state by the voltage of the SENSE pin

**Auto Grade Precision Voltage Supervisor with Programmable
Window Watchdog Timer**

Pin	Name	I/O	Description
			voltage lower than the threshold V_{IT_UV} , or above the overvoltage threshold V_{IT_OV} . $\overline{RESET}$ will keep low for the reset delay time programmed by the CRST pin after the SENSE pin voltage recovers to normal voltage.
10	SENSE	I	Sense Pin. It is used for monitoring voltage. If the voltage drops below the threshold voltage V_{IT_UV} , or above the threshold V_{IT_OV} , the $\overline{RESET}$ is asserted.
-	Thermal Pad ⁽¹⁾		Exposed Pad.

(1) The Thermal Pad of the DFN3X3-10 is recommended to be connected to GND.

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Specifications

Absolute Maximum Ratings

Parameter		Min	Max	Unit
Supply Voltage	VDD to GND	-0.3	5.5	V
Output Voltage	RESET, WDO to GND	-0.3	5.5	V
Other Voltage	CRST, CWDI, WDI, SET0, SET1, SENSE to GND	-0.3	5.5	V
Output Current	RESET, WDO		5	mA
T _J	Maximum Junction Temperature		150	°C
T _A	Operating Temperature Range	-40	125	°C
T _{STG}	Storage Temperature Range	-65	150	°C
T _L	Lead Temperature (Soldering 10 sec)		300	°C

(1) Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

(2) This data was taken with the JEDEC low effective thermal conductivity test board.

(3) This data was taken with the JEDEC standard multilayer test boards.

ESD, Electrostatic Discharge Protection

Parameter		Condition	Minimum Level	Unit
HBM	Human Body Model ESD	AEC Q100-002	±4	kV
CDM	Charged Device Model ESD	AEC Q100-011	±1.5	kV

Thermal Information

Package Type	θ _{JA}	θ _{JB}	θ _{JC-top}	θ _{JC-bot}	Unit
DFN3x3-10	52.7	23.8	86	14.3	°C/W

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Electrical Characteristics

All test conditions: $V_{DD} = 5\text{ V}$, $T_A = -40^\circ\text{C}$ to 125°C , unless otherwise noted. Typical values are at $T_A = 25^\circ\text{C}$.

Parameter			Conditions	Min	Typ	Max	Unit
V _{DD}	Supply Voltage Range			1.6		5.5	V
I _{DD}	Quiescent Current		V _{DD} = 5.5V, $\overline{\text{RESET}}$ not asserted		10	19	μA
V _{POR}	Power-on Reset Voltage			0.25		0.6	V
V _{IT_UV}	Under-voltage Threshold	Fixed version	TPV8350JQ		0.79		V
			TPV8350UQ		1.12		V
			TPV8350VQ		1.615		V
			TPV8350WQ		1.67		V
			TPV8350ZQ		2.33		V
			TPV8350RQ		2.64		V
			TPV8350PQ		2.79		V
			TPV8350OQ		2.88		V
			TPV8350SQ		2.94		V
			TPV8350TQ		3.07		V
			TPV8350NQ		3.17		V
			TPV8350MQ		4.40		V
			TPV8350LQ		4.65		V
			TPV8350KQ		4.80		V
V _{IT_UV_ERR}	Negative-going Input Threshold Accuracy		−40°C < T _A < 125°C	−1		1	%
V _{IT_UV_HYS}	Hysteresis on V _{IT}				0.5		%
V _{IT_OV}	Over-voltage Threshold	Fixed version	TPV8350JQ		0.91		V
			TPV8350UQ		1.28		V
			TPV8350VQ		1.985		V
			TPV8350WQ		1.93		V
			TPV8350ZQ		2.68		V
			TPV8350RQ		3.36		V
			TPV8350PQ		3.21		V
			TPV8350OQ		3.12		V
			TPV8350SQ		3.70		V
			TPV8350TQ		3.53		V
			TPV8350NQ		3.43		V
			TPV8350MQ		5.60		V
			TPV8350LQ		5.35		V

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Parameter			Conditions	Min	Typ	Max	Unit
			TPV8350KQ		5.20		V
V _{IT_OV_ERR}	Positive-going Input Threshold Accuracy		-40°C < T _A < 125°C	-1		1	%
V _{IT_OV_HYS}	Hysteresis on V _{IT}				0.5		%
V _{IT_UV_ADJ}	Under-voltage Threshold	ADJ version	TPV8350ADJQ	0.396	0.4	0.404	V
I _{CRST}	CRST Pin Charge Current		V _{CRST} = 0.5 V	300	370	470	nA
V _{CRST}	CRST Pin Threshold Voltage			1.182	1.197	1.211	V
I _{CWD}	CWD Pin Charge Current		CWD = 0.5V	300	370	470	nA
V _{CWD}	CWD Pin Threshold Voltage			1.182	1.197	1.211	V
V _{OL}	Output Low Voltage of $\overline{\text{RESET}}$ Pin, $\overline{\text{WDO}}$		1.6 V < V _{DD} < 5.5 V, I _{SINK} = 2.0 mA			0.4	V
I _D	$\overline{\text{RESET}}$, $\overline{\text{WDO}}$ Output Leakage Current		V _{DD} = 1.6 V, V _{RESET} = V _{WDO} = 5.5 V			1	μA
V _{IL}	MR, EN, SET0, SET1 Logic Low Input			0		0.25	V
V _{IH}	MR, EN, SET0, SET1 Logic High Input			0.8			V
V _{IL_WDI}	WDI Logic Low Input			0		0.3V _{DD}	V
V _{IH_WDI}	WDI Logic High Input			0.8V _{DD}			V
I _{SENSE}	SENSE Pin Idle Current	FIX version	V _{SENSE} = 5.0 V, V _{DD} = 3.3 V		0.4	1	μA
		ADJ version	V _{SENSE} = 5.0 V, V _{DD} = 3.3 V	-50		50	nA
t _{RST}	Reset Delay Time		C _{RST} = Open	170	200	230	ms
			C _T = 10 kΩ to V _{DD}	8.5	10	11.5	ms
t _{RST_DEL}	VCC to Reset Deglitch Time		V _{IT_OV} + 2.5%		35		μs
			V _{IT_UV} - 2.5%		17		μs
t _{MR_GEL}	MR to $\overline{\text{RESET}}$ Delay		V _{IH} = 0.7 V _{DD} , V _{IL} = 0.3 V _{DD}		200		ns
t _{MR_PW}	nMR Pulse Width		V _{IH} = 1.05 V _{DD} , V _{IL} = 0.95 V _{DD}		50		μs
WD ratio	Window Watchdog Ratio of Lower Boundary to Upper Boundary		SET0 = 0, SET1 = 0		1/8		
			SET0 = 1, SET1 = 1		1/2		
			SET0 = 1, SET1 = 0		Disabled		
			SET0 = 0, SET1 = 1		3/4		
t _{WTD}	Watchdog Timer Upper Boundary	CWTD = Open	SET0 = 0, SET1 = 0		1.6		s
			SET0 = 1, SET1 = 1		1.6		s
			SET0 = 1, SET1 = 0		Disabled		
			SET0 = 0, SET1 = 1		1.6		s
		CT = 10 kΩ to V _{DD}	SET0 = 0, SET1 = 0		200		ms
			SET0 = 1, SET1 = 1		200		ms

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Parameter			Conditions	Min	Typ	Max	Unit
t _{WDL}	Watchdog Timer Lower Boundary		SET0 = 1, SET1 = 0		Disabl ed		
			SET0 = 0, SET1 = 1		200		ms
		CWTD = Open	SET0 = 0, SET1 = 0		200		ms
			SET0 = 1, SET1 = 1		800		ms
			SET0 = 0, SET1 = 1		1.2		s
		CT = 10 kΩ to VDD	SET0 = 0, SET1 = 0		25		ms
			SET0 = 1, SET1 = 1		100		ms
			SET0 = 0, SET1 = 1		150		ms
t _{WTD_ACC}	Watchdog Timer Upper Boundary Accuracy	−40°C < TA < 125°C	−15		15	%	
t _{WDL_ACC}	Watchdog Timer Lower Boundary Accuracy	−40°C < TA < 125°C	−15		15	%	
t _{WDI_PW}	WDI Pulse Width			50		ns	
t _{WDI_GEL}	WDI to nWDO Delay			50		ns	

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Typical Performance Characteristics

All test conditions: $V_{DD} = 5\text{ V}$, $T_A = +25^\circ\text{C}$, unless otherwise noted.

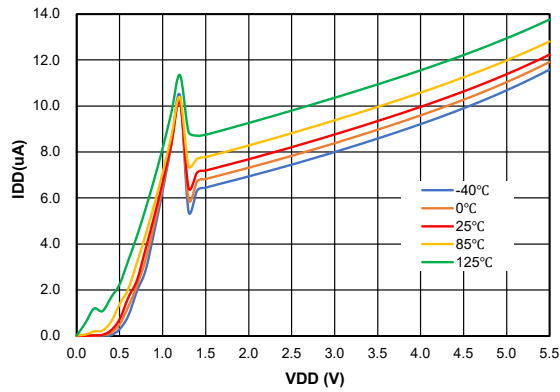


Figure 1. Supply Current vs. Supply Voltage

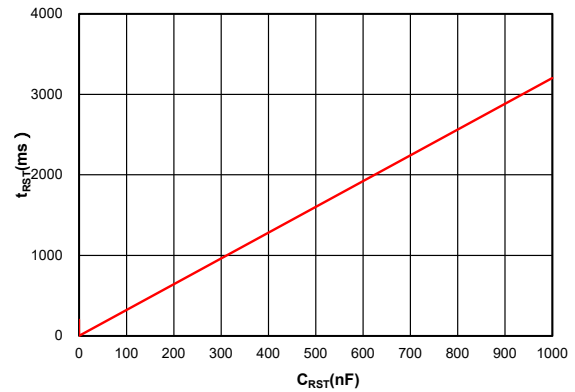


Figure 2. Reset Delay Time vs. C_{RST}

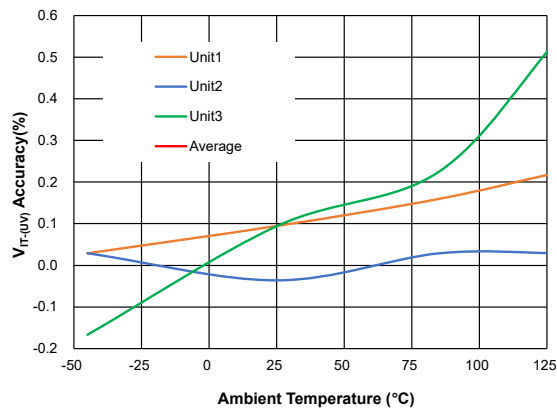


Figure 3. V_{IT_UV} vs. Temperature

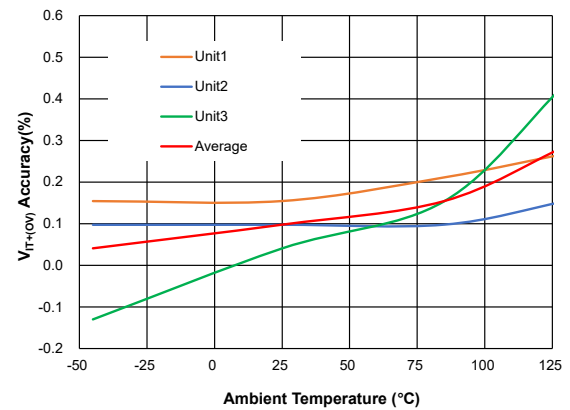


Figure 4. V_{IT_OV} vs. Temperature

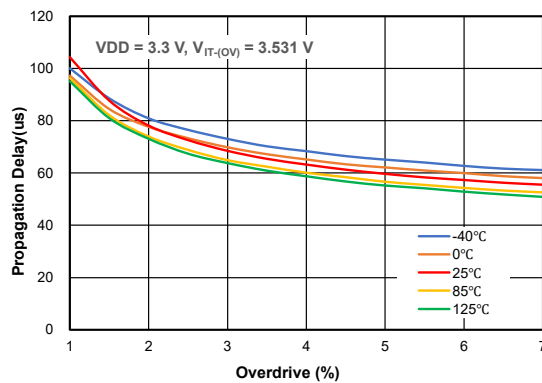


Figure 5. Propagation Delay vs. Overdrive

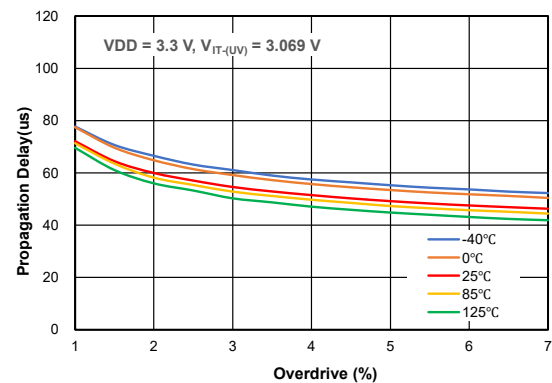


Figure 6. Propagation Delay vs. Overdrive

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

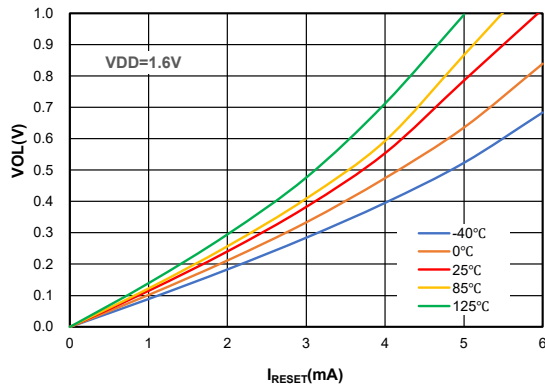


Figure 7. Low-level $\overline{\text{Reset}}$ Voltage vs. $\overline{\text{RESET}}$ Current

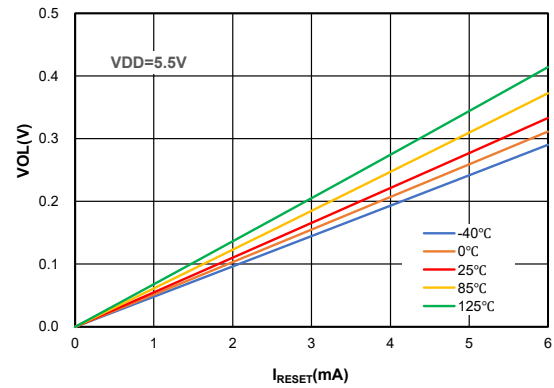


Figure 8. Low-level $\overline{\text{Reset}}$ Voltage vs. $\overline{\text{RESET}}$ Current

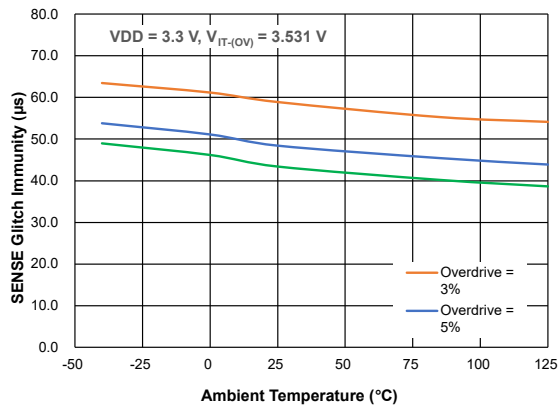


Figure 9. SENSE Glitch Immunity vs. Temperature

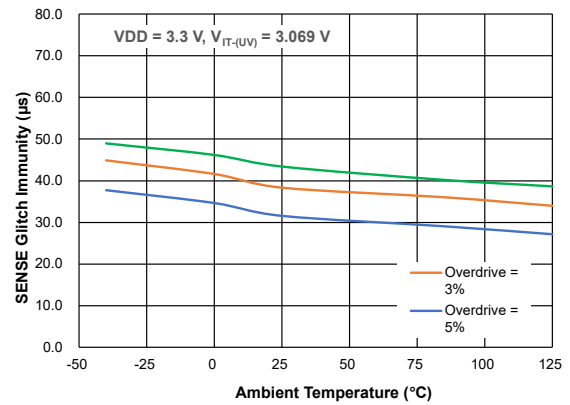


Figure 10. SENSE Glitch Immunity vs. Temperature

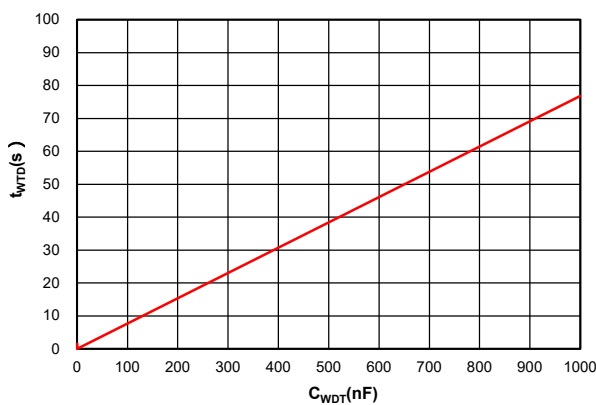


Figure 11. Watchdog Timeout Period vs. C_{WDT}

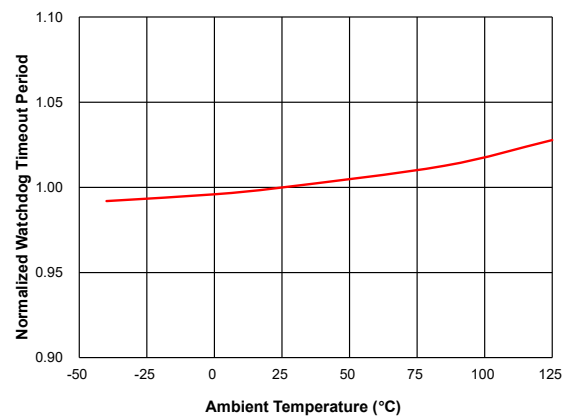
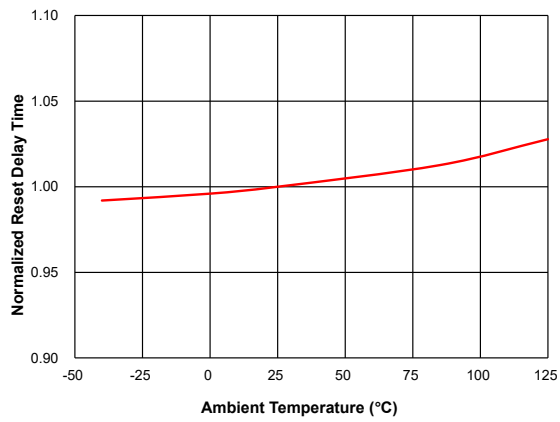


Figure 12. Watchdog Timeout Period vs. Temperature

**Auto Grade Precision Voltage Supervisor with Programmable
Window Watchdog Timer****Figure 13. Reset Delay Time vs. Temperature**

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Detailed Description

Overview

The TPV8350Q is an auto-grade precision supervisor with a programmable window watchdog timer. It monitors a voltage rail from 0.9 V to 5 V for both undervoltage and overvoltage on the SENSE pin. It can achieve 1% monitor accuracy, which is ideal for a tight tolerance system. The TPV8350Q RESET delay time can be set by factory-programmed settings or by an external capacitor.

The TPV8350Q includes a programmable window watchdog timer. The watchdog timeout period can be set by factory-programmed settings or by an external capacitor. The window ratio can be set by the SET0 and SET1 pins. When an undesired watchdog timeout happens, the $\overline{\text{WDO}}$ asserts low for the reset delay time.

Functional Block Diagram

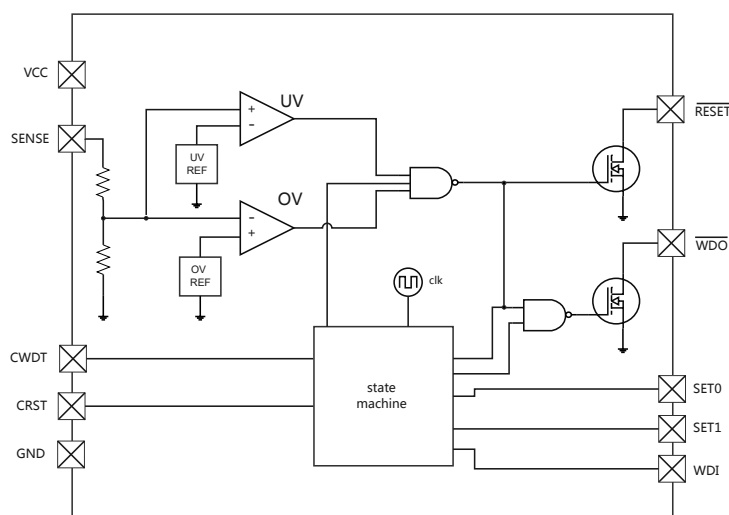


Figure 14. Fixed Version Functional Block Diagram

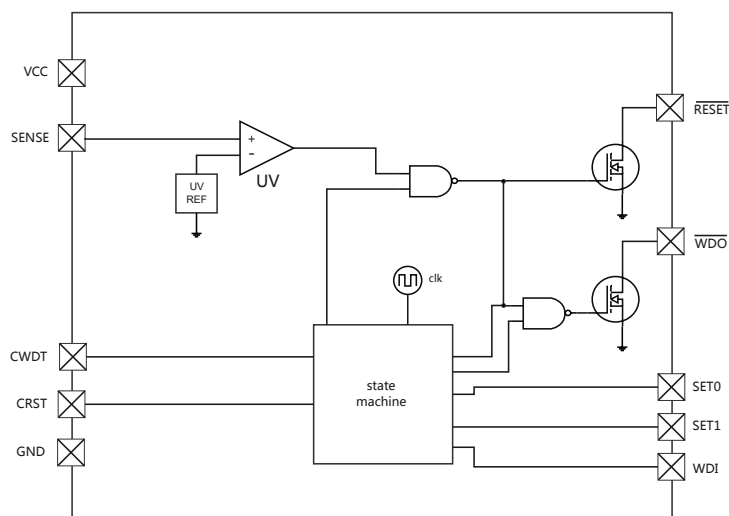


Figure 15. ADJ Version Functional Block Diagram

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Feature Description

RESET Output

The reset threshold voltage can be set by the factory from 1.6 V to 5.0 V in the fixed version, or be set to any voltage above 0.4 V using an external resistor divider in the ADJ version. For the fixed version, the SENSE pin detects the monitored voltage. If the voltage on this pin drops below V_{IT_UV} or rises above the V_{IT_OV} , the $\overline{RESET}$ is asserted. For the ADJ version, the SENSE pin only detects the under-voltage events.

The TPV8350Q features an active-low open drain output that needs to be pulled up through a 1 kΩ to 100 kΩ pull-up resistor. The reset signal is guaranteed to be logic low if asserted, and remains low for the duration of the reset delay time (t_D) after the SENSE pin voltage recovers to normal. Figure 8 shows the reset outputs.

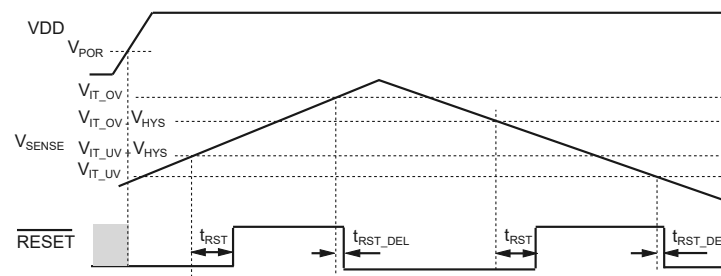


Figure 16. Reset Timing

RESET Delay Time

The Reset delay time can be set in three ways, one is connecting CRST to VDD through a pull-up resistor, in this way, the t_{RST} is set to 10ms. The second way is leaving CRST floating, in this way, the t_{RST} is set to 200ms. The third way is connecting CRST to GND through a capacitor, in this way, the TPV8350Q provides programmable reset delay time, which is realized by selecting a capacitor between CRST and GND. The reset delay time (t_{RST}) under a given capacitor value is calculated using Equation 1. Where, the C_{CRST} is in microfarads and t_{RST} is in seconds.

$$t_{RST} = 3.22 \times C_{CRST} + 0.000381 \quad (1)$$

The TPV8350Q determines which way is connected to the CRST pin every time $\overline{RESET}$ is asserted. This sequence takes 400μs to determine which timing option is used.

Window Watchdog

The TPV8350Q features a window watchdog; the following figure shows the window watchdog timing. In the window watchdog, the WDI pulse must be issued between the watchdog timer upper boundary t_{WTD} , and watchdog timer lower boundary t_{WDL} . The t_{WTD} can be set in three ways, one is connecting CWDT to VDD through a pull-up resistor, in this way, the t_{WTD} is set to 200ms. The second way is leaving CWDT floating, in this way, the t_{WTD} is set to 1.6s. The third way is connecting CWDT to GND through a capacitor, in this way, the TPV8350Q provides programmable upper boundary watchdog time. The reset delay time (t_{WTD}) under a given capacitor value is calculated using the equation below. where, C_{CWDT} is in microfarads, and t_{WTD} is in seconds.

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

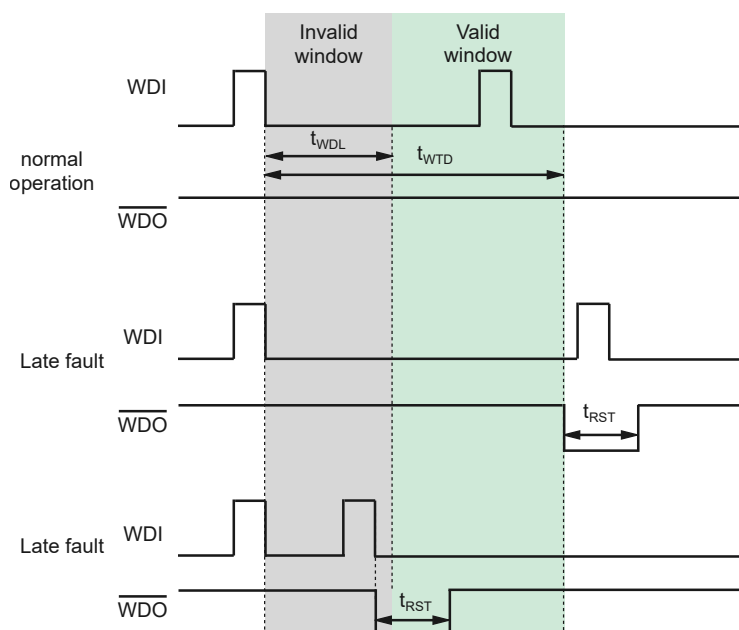


Figure 17. Window Watchdog Timing

$$t_{WTD} = 77.4 \times C_{CWDT} + 0.055 \quad (2)$$

The t_{WDL} is programmable by SET0 and SET1 as show in the table below. The SET0 and SET1 can be used to control the window watchdog ratio, then control the t_{WDL} . The SET0 and SET1 can be changed during the watchdog enabled, but can't be changed at the same time. If SET0 or SET1 is changed, there is a 500μs delay between switching the two pins, and a reset event must occur before the new window ratio is latched.

Table 2. Window Ratio Selection

SET0	SET1	Window Ratio	t_{WDL}
0	0	1/8	$t_{WTD}/8$
0	1	3/4	$t_{WTD} \times 3/4$
1	0	Watchdog disable	Watchdog disable
1	1	1/2	$t_{WTD}/2$

Enable Watchdog

The TPV8350Q features the ability to enable and disable the watchdog timer. When the watchdog goes from disable to enable, there is a 500μs transition period during which the device doesn't respond to a pulse on WDI. After this time, the device begins to respond to changes on WDI. When the watchdog is disabled, the $\overline{WDO}$ is high impedance.

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Application and Implementation

Note

Information in the following application sections is not part of the 3PEAK's component specification and 3PEAK does not warrant its accuracy or completeness. 3PEAK's customers are responsible for determining suitability of components for their purposes. Customers should validate and test their design implementation to confirm system functionality.

Application Information

Figure 18 shows the typical application circuit of TPV8350Q with a reset threshold voltage set by the external resistor divider. Figure 19 shows the application circuit of TPV8350Q with the reset threshold voltage set by the factory.

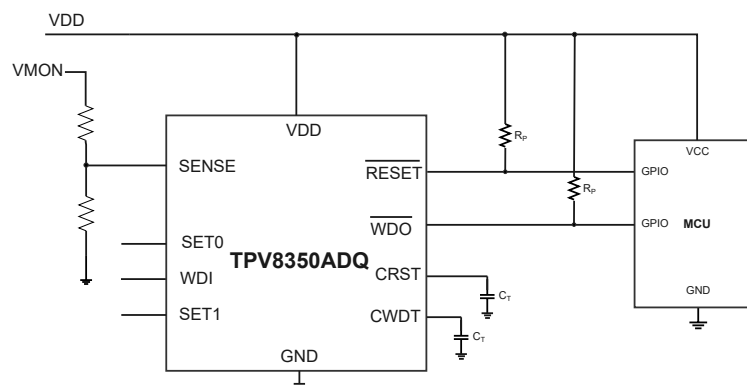


Figure 18. TPV8350Q Adjustable Version Typical Application Circuit

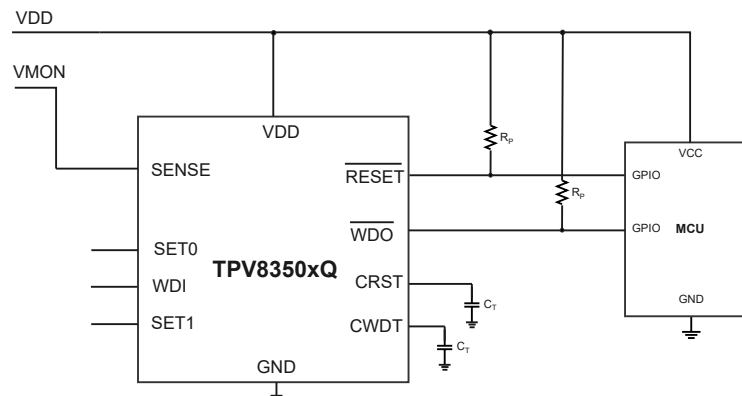
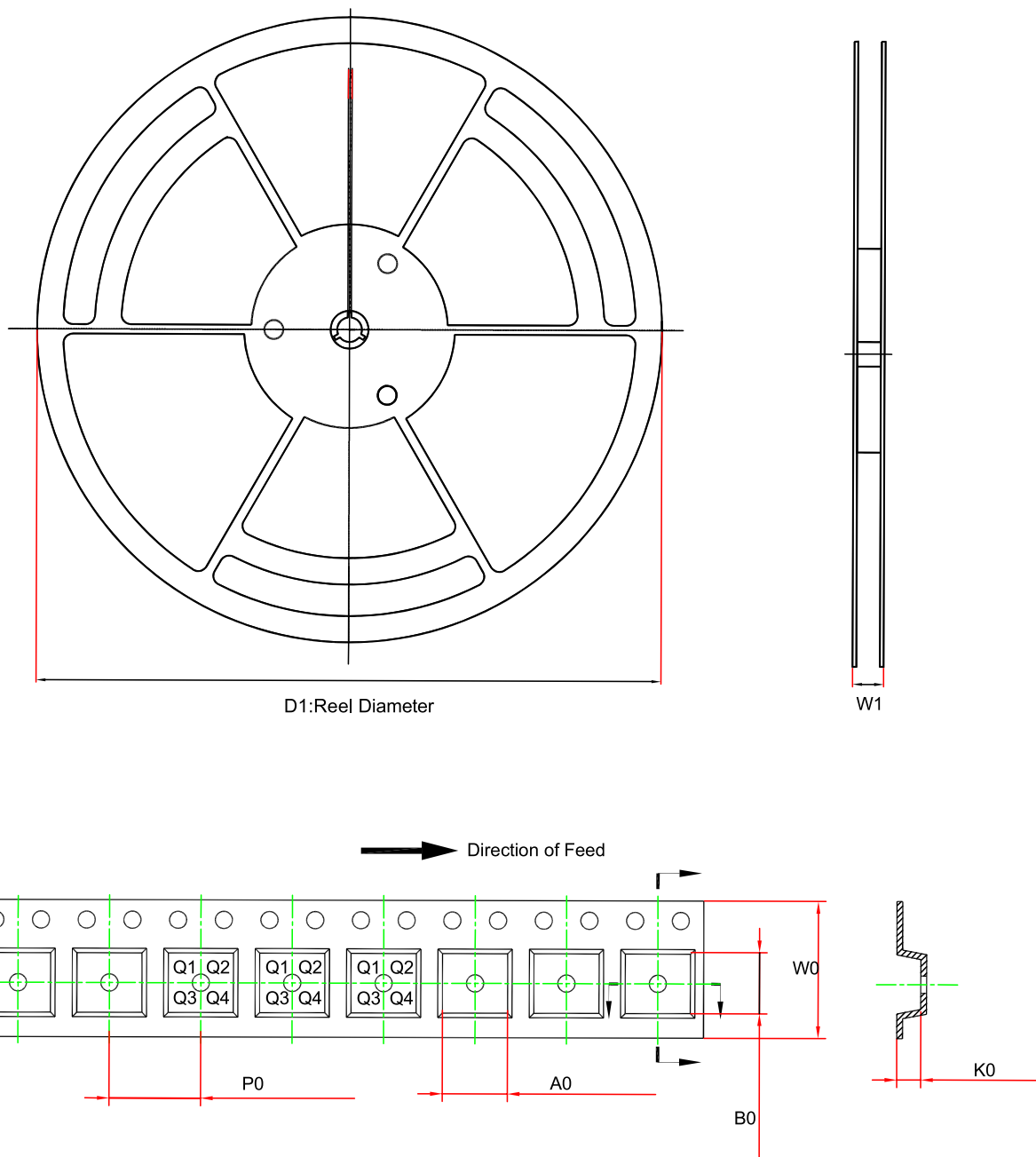


Figure 19. TPV8350Q Fixed Version Typical Application Circuit

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Tape and Reel Information



Order Number	Package	D1 (mm)	W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	W0 (mm)	Pin1 Quadrant
TPV8350TQ-DN2R-S	DFN3x3-10	330	17.6	3.3	3.3	1.1	8	12	Q2

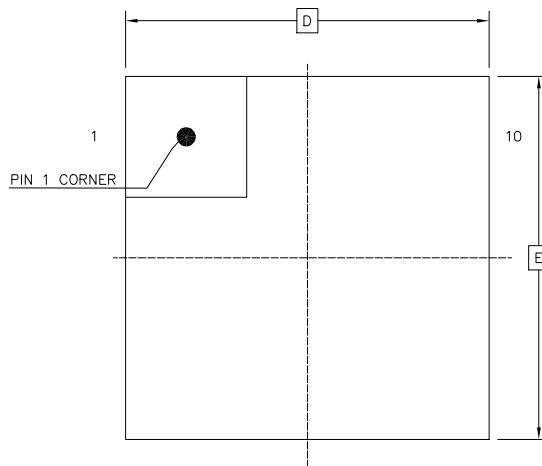
Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer

Package Outline Dimensions

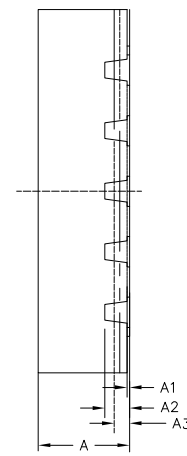
DFN3X3-10-WET-C

Package Outline Dimensions

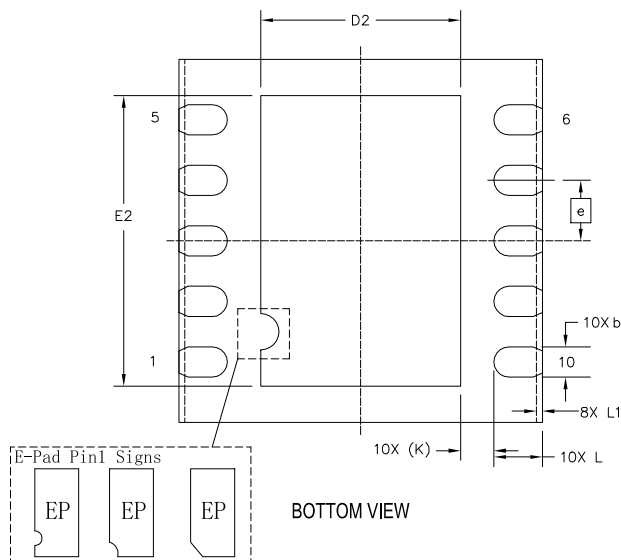
DN2(DFN3X3-10-WET-C)



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.8	0.9	0.031	0.035
A1	0.000	0.050	0.000	0.002
A2	0.203 REF		0.008 REF	
A3	0.080	0.180	0.003	0.008
b	0.200	0.300	0.008	0.012
D	3.000 BSC		0.118 BSC	
E	3.000 BSC		0.118 BSC	
e	0.500 BSC		0.020 BSC	
D2	1.550	1.750	0.061	0.069
E2	2.300	2.500	0.091	0.098
L	0.300	0.500	0.012	0.020
L1	0.010	0.090	0.000	0.004
K	0.275 REF		0.011 REF	

NOTES

1. Do not include mold flash or protrusion.
2. This drawing is subject to change without notice.
3. The many types of E-pad Pin1 signs may appear in the product.

Auto Grade Precision Voltage Supervisor with Programmable Window Watchdog Timer**Order Information**

Order Number	Operating Temperature Range	Package	Marking Information	MSL	Transport Media, Quantity	Eco Plan
TPV8350ADQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	5ADQ	3	Tape and Reel, 4000	Green
TPV8350JQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50JQ	3	Tape and Reel, 4000	Green
TPV8350UQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50UQ	3	Tape and Reel, 4000	Green
TPV8350VQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50VQ	3	Tape and Reel, 4000	Green
TPV8350WQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50WQ	3	Tape and Reel, 4000	Green
TPV8350ZQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50ZQ	3	Tape and Reel, 4000	Green
TPV8350RQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50RQ	3	Tape and Reel, 4000	Green
TPV8350PQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50PQ	3	Tape and Reel, 4000	Green
TPV8350OQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50OQ	3	Tape and Reel, 4000	Green
TPV8350SQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50SQ	3	Tape and Reel, 4000	Green
TPV8350TQ-DN2R-S	-40 to 125°C	DFN3x3-10	50TQ	3	Tape and Reel, 4000	Green
TPV8350NQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50NQ	3	Tape and Reel, 4000	Green
TPV8350MQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50MQ	3	Tape and Reel, 4000	Green
TPV8350LQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50LQ	3	Tape and Reel, 4000	Green
TPV8350KQ-DN2R-S ⁽¹⁾	-40 to 125°C	DFN3x3-10	50KQ	3	Tape and Reel, 4000	Green

(1) For future products, contact the 3PEAK factory for more information and samples.

Green: 3PEAK defines "Green" to mean RoHS compatible and free of halogen substances.

**Auto Grade Precision Voltage Supervisor with Programmable
Window Watchdog Timer****IMPORTANT NOTICE AND DISCLAIMER**

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