Data Sheet

Type Description: 3-Channel PC Power Supply Supervisors

Product Name: CG8513

Reversion: 1.00

Reversion Date: April 26, 2010

Page: 6 Pages

Issue Date: 2010/05/14

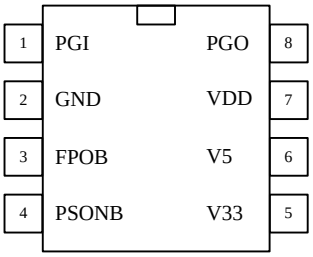
CG8513
3-Channel PC Power Supply Supervisors

Description

The CG8513 is a PC switching power supply monitor with minimum external components. It provides protection circuits, power-good output (PGO), fault protection output (FPOB) and on/off control (PSONB).

The over-voltage protection (OVP) monitors 3.3V, 5V and 12V (12V supplies voltage detects via VDD pin). The under-voltage protection (UVP) monitors 3.3V and 5V. When an OV or UV condition is detected, the fault protection output (FPOB) is latched high and the power good output (PGO) go low. PSONB from low to high resets the latch. When OV, UV and PGI are all right, the power good output (PGO) will be issue. A built-in 4ms delay and 38ms debounce for PSONB turn off FPOB.

Pin Configuration (Top View)



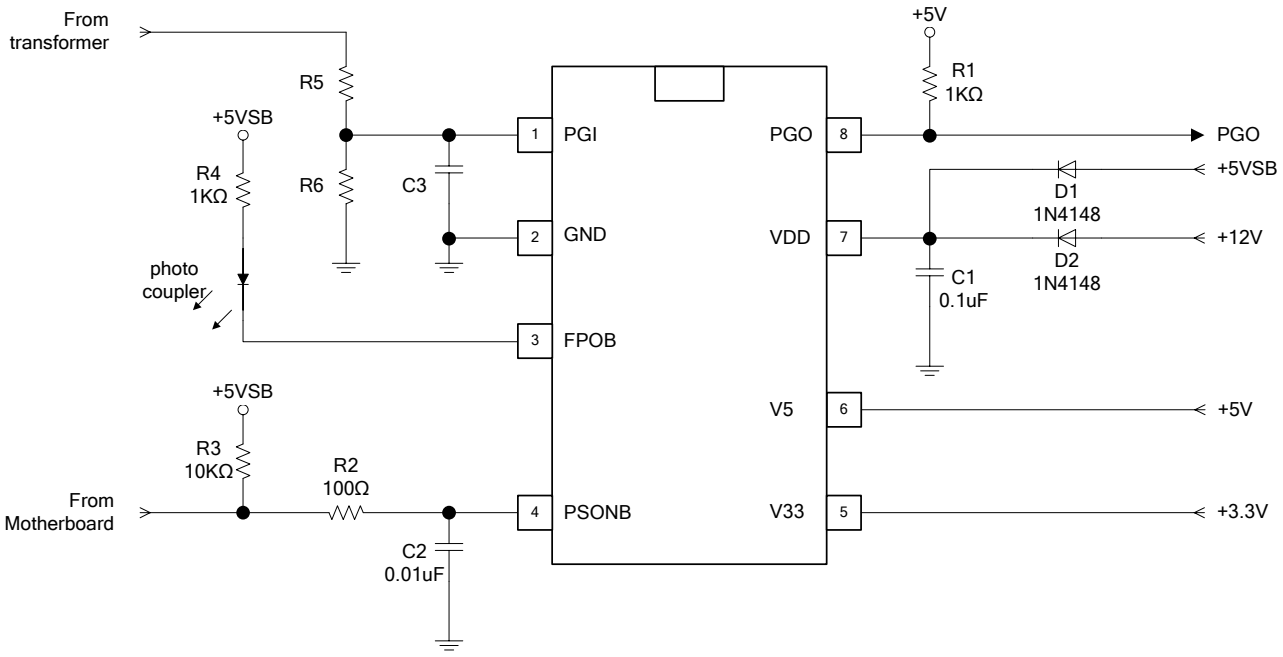
Features

- Over-voltage protection (OVP) for 3.3V, 5V and 12V supplies
- Under-voltage protection (UVP) for 3.3V and 5V supplies
- Fault protection output (FPOB) with open drain output
- Power good output (PGO) with open drain output
- 350ms PGO delay time
- 38ms PSONB debounce time
- 35us OVP debounce time
- 73us UVP debounce time
- 73us PGI debounce time
- 4ms FPOB turn off delay time
- 75ms UVP delay time

Ordering Information

ORDER NUMBER	Package Type	Packing	Top Marking
CG8513DX08-U	P-DIP8 (RoHS)	Tube	CG8513DX08
CG8513SX08-U	SOP-8 (RoHS)	Tube	CG8513SX08

Typical Application Circuit



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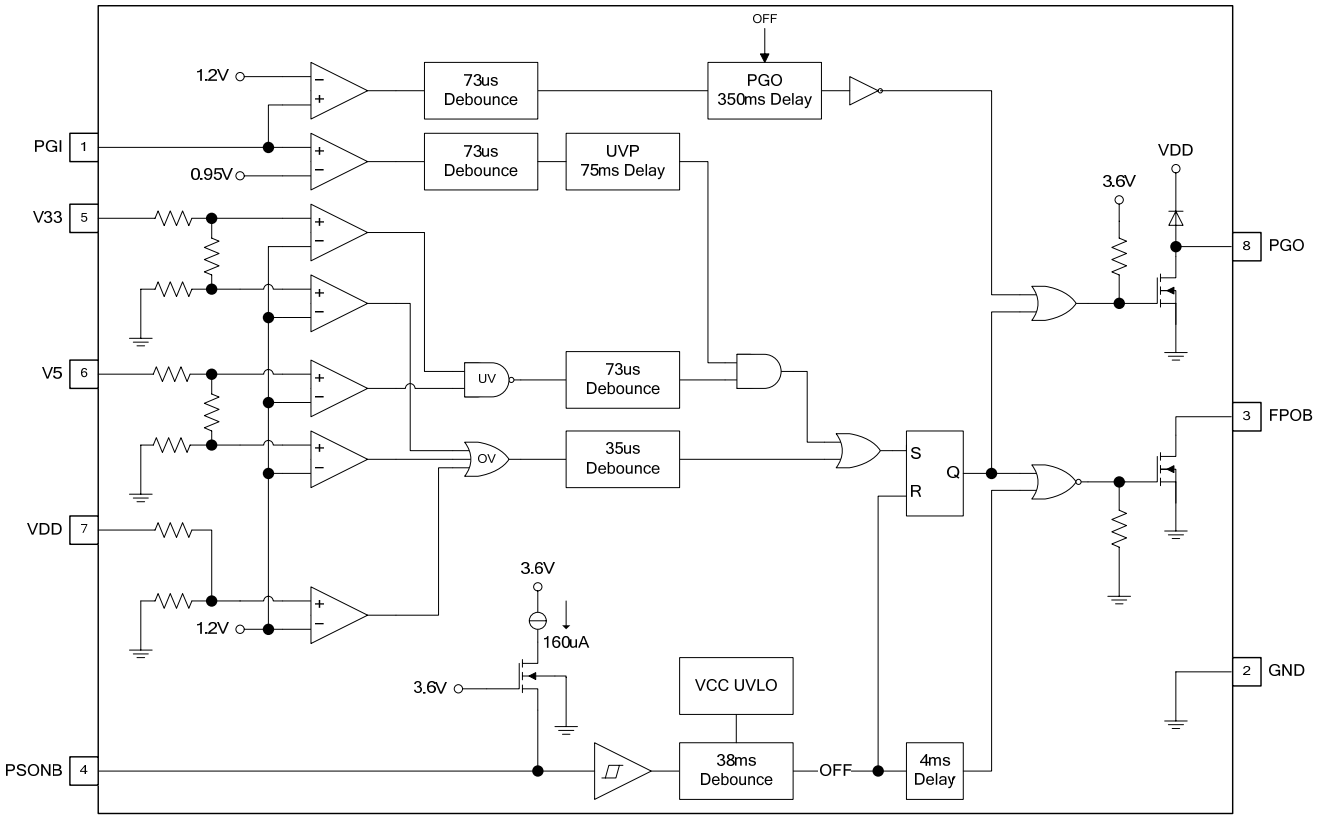
Pin Description

Pin	Symbol	Function
1	PGI	AC power good input pin.
2	GND	Ground.
3	FPOB	Open drain output of the fault protection.
4	PSONB	ON/OFF control input pin.
5	V33	+3.3V input pin for OVP and UVP.
6	V5	+5V input pin for OVP and UVP.
7	VDD	Power supply. +12V input pin for OVP.
8	PGO	Open drain output of power good signal.

Function Table

PSONB	Over Voltage	Under Voltage	PGI	FPOB	PGO
L	No	No	< 1.20V	L	L
L	No	No	> 1.20V	L	H
L	No	Yes	< 0.95V	L	L
L	No	Yes	> 0.95V	H	L
L	Yes	Don't care	Don't care	H	L
H	Don't care	Don't care	Don't care	H	L

Block Diagram



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Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	VDD	-0.3	16	V
Supply Voltage Rising Time		1	-	ms
Input Voltage	PGI, PSONB, V5, V33	-0.3	7	V
Output Voltage	PGO, FPOB	-0.3	16	V
Operating Temperature Range		-40	85	°C
Storage Temperature Range		-65	150	°C
Soldering Temperature		-	260	°C

Note: Stresses above those listed may cause permanent damage to the devices.

Electrical Characteristics (T_A=25℃, VDD=5V, unless otherwise noted.)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
VDD Power Supply						
VDD Operating Voltage	VDD		4	5	15	V
IDD Supply Current	I_{DD}	PSONB=5V	-	-	1	mA
VDD Start-up Voltage			-	3.4	3.6	V
VDD Under Voltage Lockout after Start-up			2.8	3.0	-	V
Over Voltage and Under Voltage Detection						
Over Voltage Threshold	V33		3.7	3.8	3.9	V
	V5		5.7	5.85	6.0	V
	VDD		12.9	13.25	13.6	V
Under Voltage Threshold	V33		2.55	2.69	2.83	V
	V5		4.1	4.3	4.47	V
PGI Threshold Voltage	PGI1		1.16	1.20	1.24	V
	PGI2		0.90	0.95	1.00	V
Temperature Coefficient of Voltage	TCV		-0.02	-	0.02	% / ℃
Output						
Low Level Output Voltage	$V_{OL\ (FPOB)}$	I_{SINK}=20mA	-	-	0.4	V
	$V_{OL\ (PGO)}$	I_{SINK}=20mA	-	-	0.4	V
Leakage Current of FPOB and PGO	I_{LKG}		-1	-	1	uA
PSONB Control						
High Level Input Voltage	V_{IH}		1.8	-	-	V
Low Level Input Voltage	V_{IL}		-	-	1.0	V
Pull-up Current			-	160	-	uA
Timing						
PSONB Debounce Time	t_{db1}		24	38	52	mS
OVP Debounce Time	t_{db2}		20	35	50	uS
UVP Debounce Time	t_{db3}		47	73	100	uS
PGI Debounce Time	t_{db4}		47	73	100	uS
PGO Delay Time	t_{delay1}		250	350	450	mS
FPOB Turn-off Time (PGO to FPOB)	t_{delay2}		2	4	6	mS
UVP Enable Delay Time	$t_{delay3-1}$	PGI < PGI2	Disable UVP check			
	$t_{delay3-2}$	PGI > PGI2	49	75	100	mS

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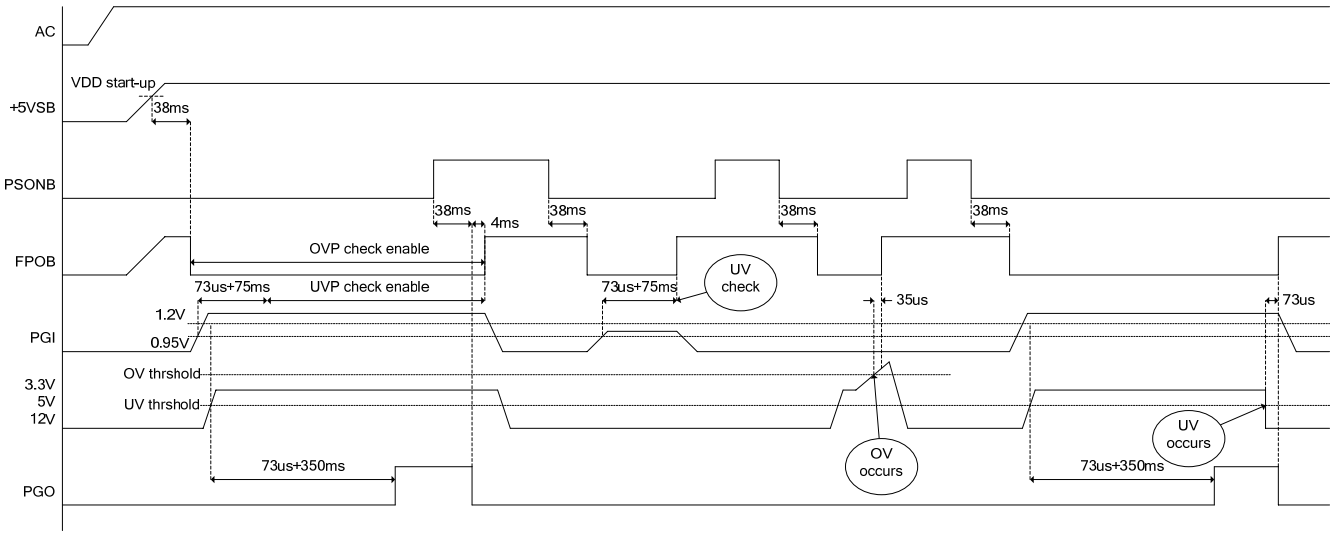
Timing Diagram

Fig.1 Normal ➔ Short Circuit ➔ OVP ➔ UVP



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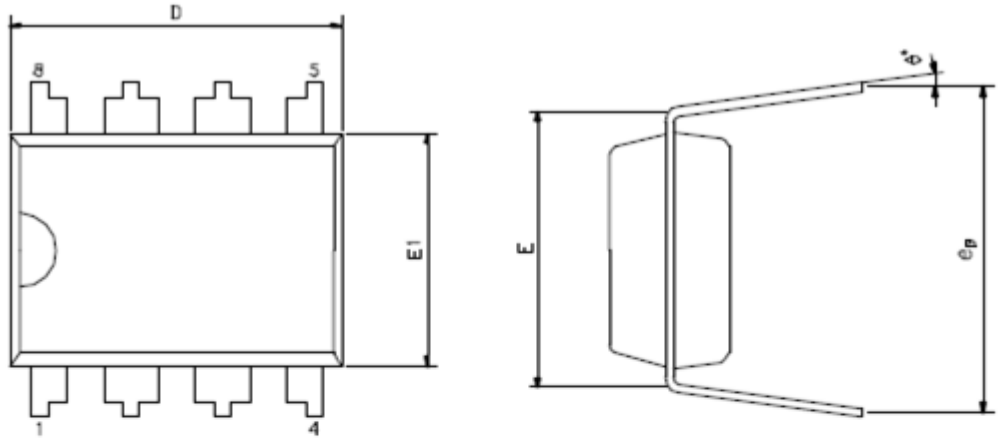
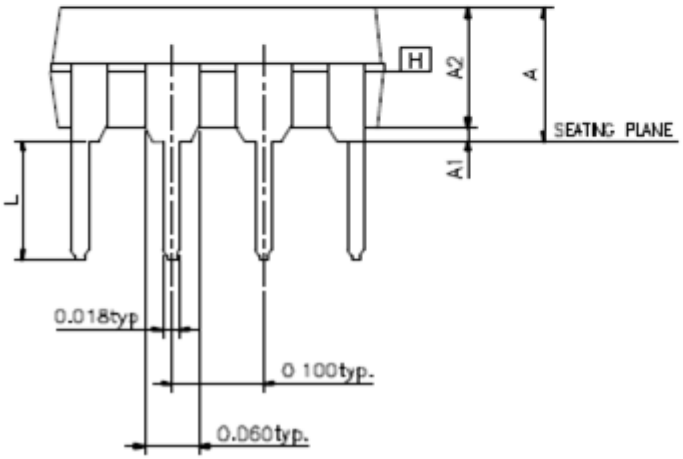
Package Outlines

Package Dimensions
P-DIP 8

Plastic Dual In-line Package
UNIT : inch / mm





Symbols	Dimensions In Inches			Dimensions In millimeters		
	MIN.	NOR.	MAX.	MIN.	NOR.	MAX.
A	---	---	0.220	---	---	5.588
A1	0.014	---	---	0.356	---	---
A2	0.118	0.130	0.149	2.997	3.302	3.785
D	0.336	0.365	0.420	8.534	9.271	10.668
E	0.300 BSC			7.620 BSC		
E1	0.232	0.250	0.273	5.893	6.350	6.934
L	0.109	0.130	0.157	2.769	3.302	3.988
eB	0.306	0.355	0.394	7.772	9.017	10.008
θ	0°	7°	15°	0°	7°	15°

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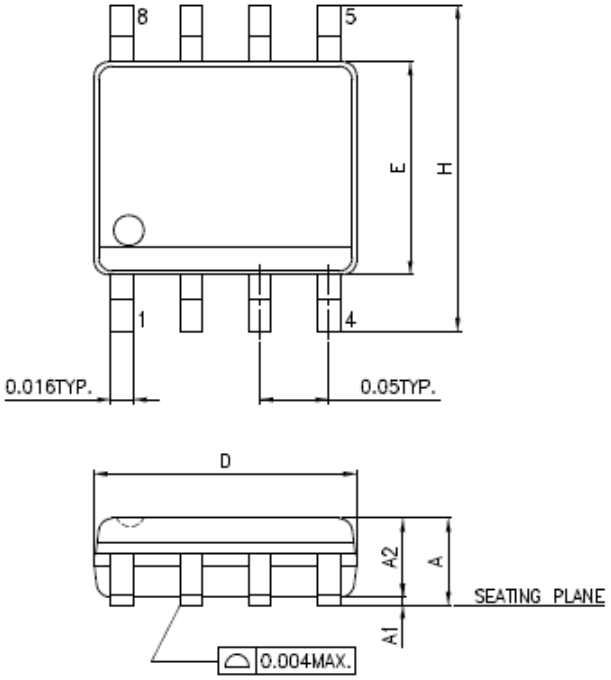
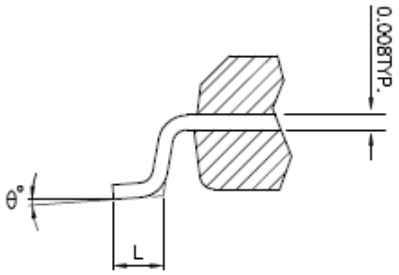
Package Outlines

Package Dimensions
SOP 8

Small Outline Package
UNIT : inch / mm





Symbols	Dimensions In Inches			Dimensions In millimeters		
	MIN.	NOR.	MAX.	MIN.	NOR.	MAX.
A	0.050	0.061	0.072	1.270	1.549	1.829
A1	0.000	------	0.010	0.000	------	0.254
A2	------	------	0.062	------	------	1.575
D	0.185	0.193	0.200	4.699	4.902	5.080
E	0.147	0.154	0.160	3.734	3.912	4.064
H	0.225	0.237	0.249	5.715	6.020	6.325
L	0.013	0.033	0.053	0.330	0.838	1.346
θ	0°	4°	8°	0°	4°	8°

Update History

Revision	Date	Update
1.00	April 26, 2010	Preliminary version

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奇高（Chipgoal)IC与其他品牌IC对照表

Pin Out	Chipgoal	伟诠	点晶	崇贸/仙童	东方腾(英士达)	华芯微	士兰微	绍兴光大	德仪
20	CG8002	WT7522	X	SG6105	X	HS8108 HS8109	SD6109	X	X
16	CG8010	WT7520	X	X	EST7502	HS8110	SC8100	SDC2921	X
8	CG8513	WT7510-N080 WT7502-N085 WT751002	X	SG6510	X	X	X	X	TI3510
8	CG8511	WT7502-N084	PS113 PS113A	X	X	X	X	X	X
14 / 16	CG8525	WT7525	X	X	X	X	X	X	X

以上产品 规格齐全 本司均有代理

欢迎来电来信讨论技术问题或者询价

联系：赵越（**186 0708 8994**）

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