



Winbond
DC Fan Pre-Driver
W83391TS
W83391TG

**W83391TS/TG****Data Sheet Revision History**

	PAGES	DATES	VERSION	VERSION ON WEB	MAIN CONTENTS
1.	N.A	Sep/04	0.5	N.A.	All versions before 0.5 are for internal use and W83391DG/TG/QG are Pb-free package.
2.	N.A	Jan/06	0.51	N.A	Remove W83391DS/DG
3.	N.A	Jan./06	0.52	N.A	Remove W83391QS/QG.
4	N.A	Jan./06	0.53	N.A	Update the datasheet with new templet.

Please note that all data and specifications are subject to change without notice. All the trademarks of products and companies mentioned in this datasheet belong to their respective owners.

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Winbond customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Winbond for any damages resulting from such improper use or sales.



Table of Content-

1.	FEATURES	1
2.	PIN CONFIGURATION AND DESCRIPTION	1
3.	APPLICATION CIRCUIT	2
4.	INTERNAL BLOCK DIAGRAM	2
5.	ELECTRICAL SPECIFICATION	3
6.	AC CHARACTERISTICS	3
7.	PACKAGE DIMENSION	4
8.	ORDERING INFORMATION	5
9.	HOW TO READ THE TOP MARKING	5

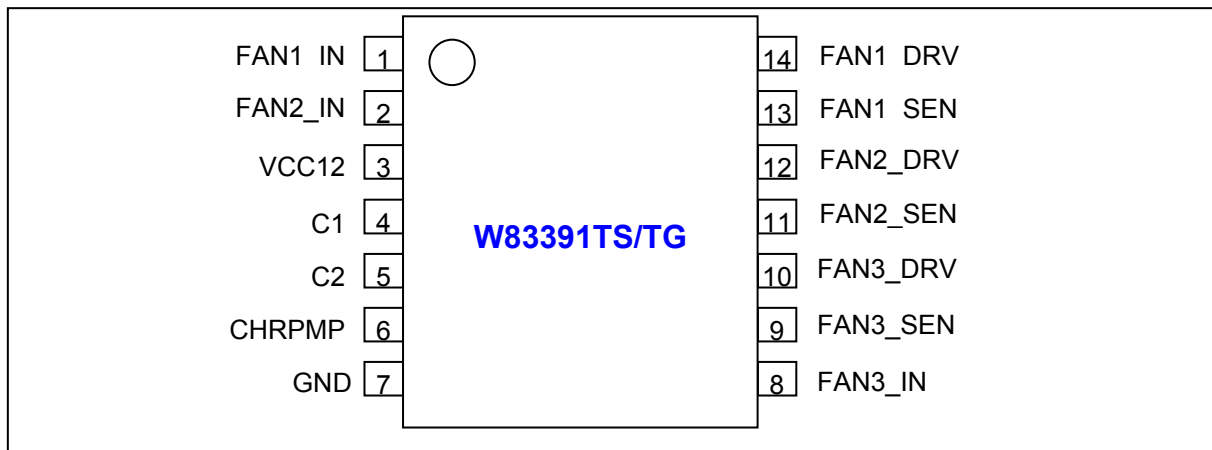
W83391TS/TG



1. FEATURES

- Provide up to 24V gate voltage for external N-channel MOSFET driving
- Pairing with Winbond all new series Super IO and Hardware Monitoring IC for DC Fan voltage regulation
- External resistors for output voltage scale adjustment
- W83391TS/TG provides 3 channels Fan control.

2. PIN CONFIGURATION AND DESCRIPTION

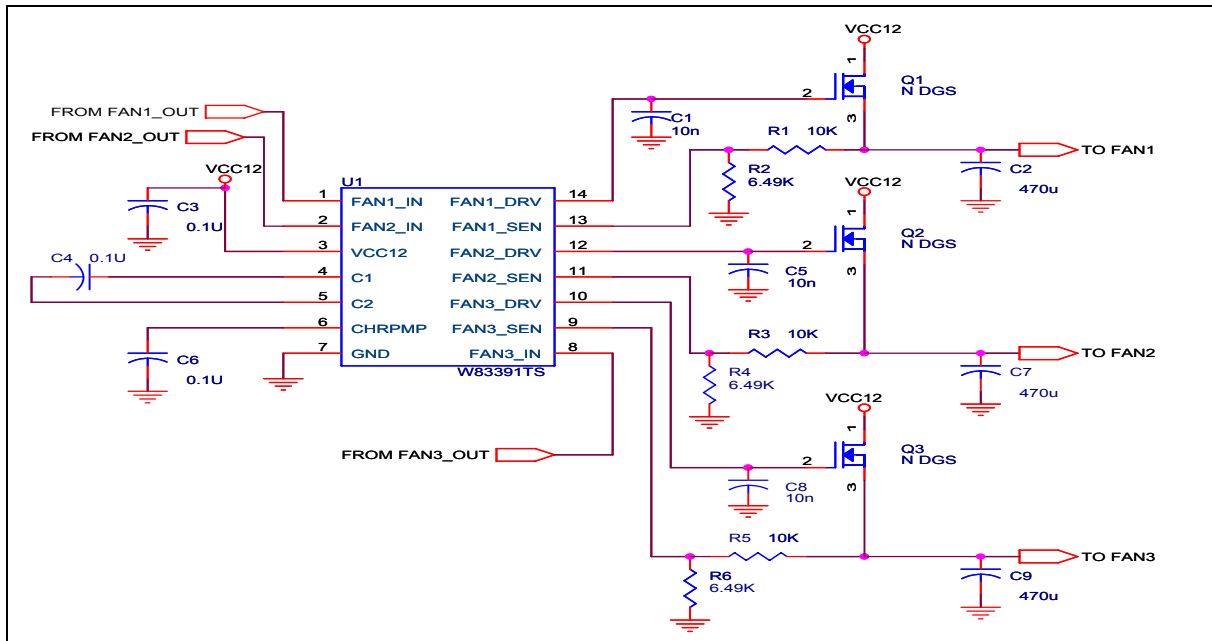


PIN	SYMBOL	FUNCTION
1	FAN1_IN	DC FAN1 Voltage Input Ranging from 0V~8V.
2	FAN2_IN	DC FAN2 Voltage Input Ranging from 0V~8V.
3	VCC12	12Vcc input.
4	C1	Charge Pump Pins. It insures output voltage achieve to 24V.
5	C2	
6	CHRPMP	
7	GND	Power Ground.
8	FAN3_IN	DC FAN3 Voltage Input Ranging from 0V~8V.
9	FAN3_SEN	Voltage Sensing Pin for 3 rd Fan Voltage Regulation.
10	FAN3_DRV	Voltage Driving Pin for 3 rd Fan Voltage Regulation.
11	FAN2_SEN	Voltage Sensing Pin for 2 nd Fan Voltage Regulation.
12	FAN2_DRV	Voltage Driving Pin for 2 nd Fan Voltage Regulation.
13	FAN1_SEN	Voltage Sensing Pin for 1 st Fan Voltage Regulation.
14	FAN1_DRV	Voltage Driving Pin for 1 st Fan Voltage Regulation.



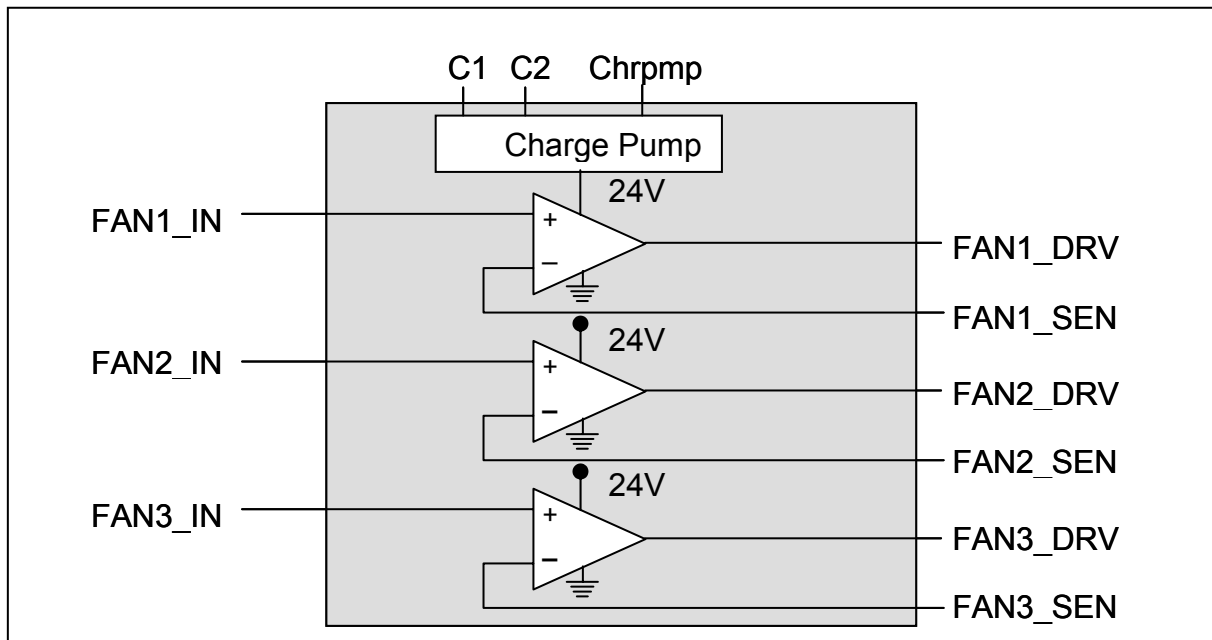
3. APPLICATION CIRCUIT

- W83391TS/TG



4. INTERNAL BLOCK DIAGRAM

- W83391TS/TG





5. ELECTRICAL SPECIFICATION

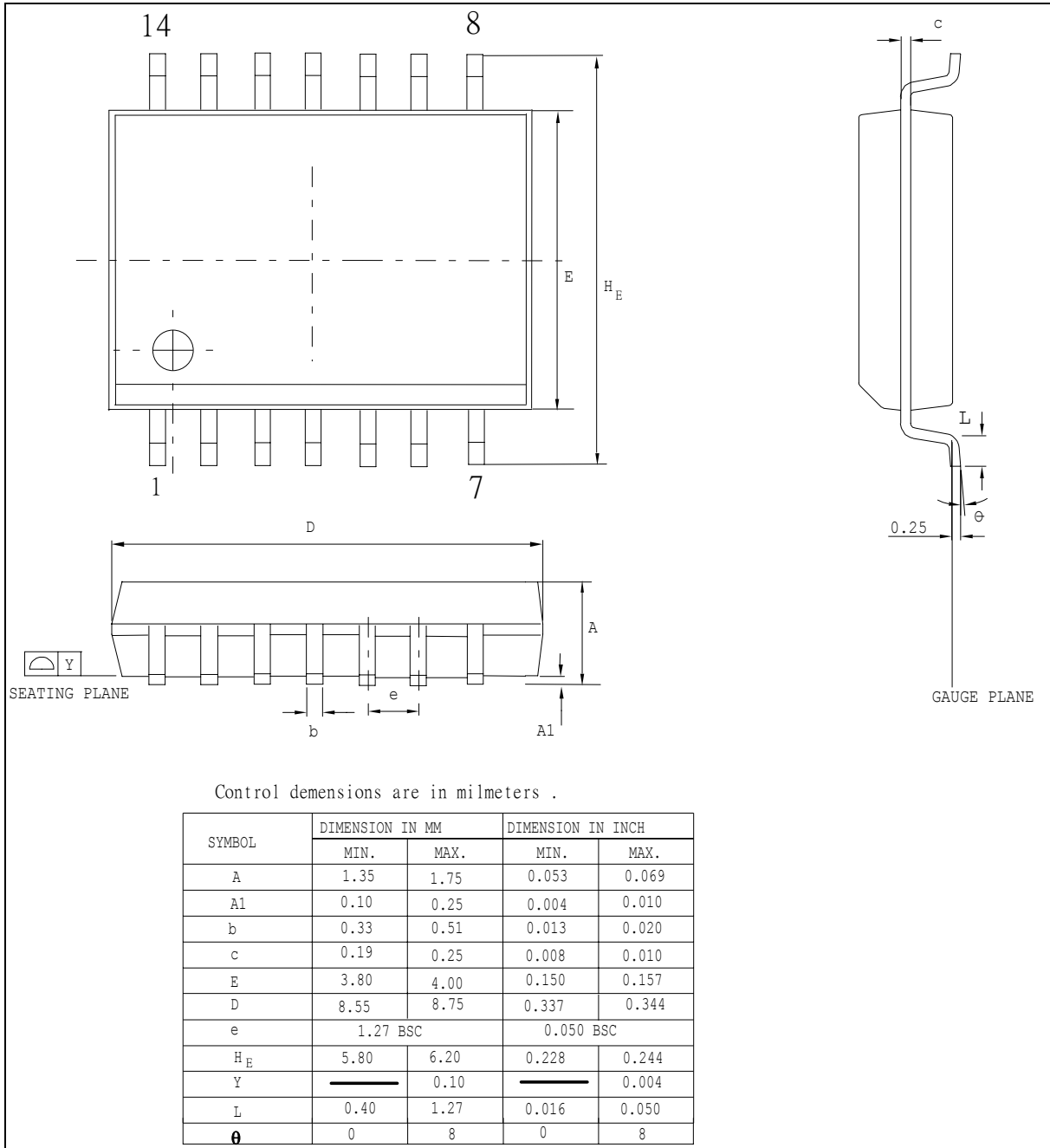
6. AC CHARACTERISTICS

$V_{cc12}=12V \pm 5\%$, $T_A = 0^{\circ}C$ to $+70^{\circ}C$						
PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
FAN#_IN Input						
Input Offset Voltage	V_{io}	2	5	50	mV	
Input Voltage Range		0		8	V	
FAN#_DRV Output						
Output Drive Current			45		uA	Cout=10nF
Output Voltage Range		1.5		24	V	
Charge Pump						
Charge Pump Frequency			180		KHz	
Charge Pump Voltage		22.8	23.2	24		



7. PACKAGE DIMENSION

- W83391TS/TG; 14L SOP 150mil



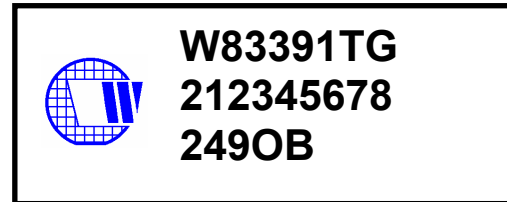
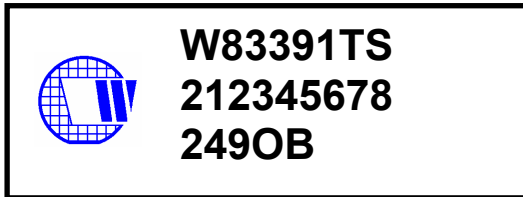
W83391TS/TG



8. ORDERING INFORMATION

PART NUMBER	PACKAGE TYPE	PRODUCTION FLOW
W83391TS	14PIN SOP	Commercial, 0°C to +70°C
W83391TG	14PIN SOP(Pb-free package)	Commercial, 0°C to +70°C

9. HOW TO READ THE TOP MARKING



Left line: Winbond logo

1st line: W83391TS, W83391TG – the part number

2nd line: Chip lot no

3rd line: Tracking code 249 O A

249: packages assembled in Year 02', week 49

O: assembly house ID; O means OSE, G means GR, etc.

B: the IC version



Important Notice

Winbond products are not designed, intended, authorized or warranted for use as components in systems or equipment intended for surgical implantation, atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, or for other applications intended to support or sustain life. Further more, Winbond products are not intended for applications wherein failure of Winbond products could result or lead to a situation wherein personal injury, death or severe property or environmental damage could occur.

Winbond customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Winbond for any damages resulting from such improper use or sales.

*Please note that all data and specifications are subject to change without notice.
All the trademarks of products and companies mentioned in this datasheet belong to their respective owners.*