



**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 <b>W83391DG/TG/QG are Pb-free package.</b>
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.

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### **LIFE SUPPORT APPLICATIONS**

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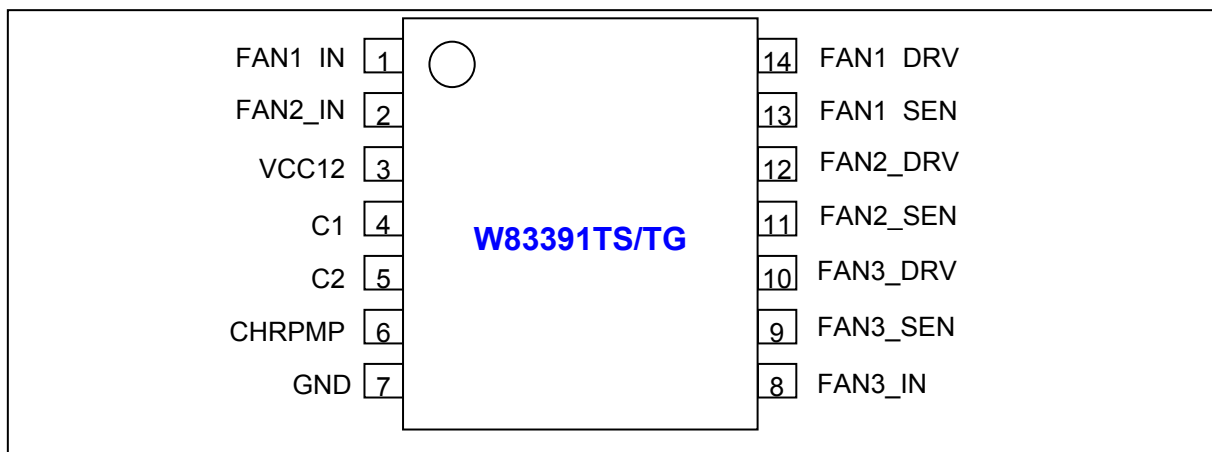
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## 1. FEATURES

- 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.

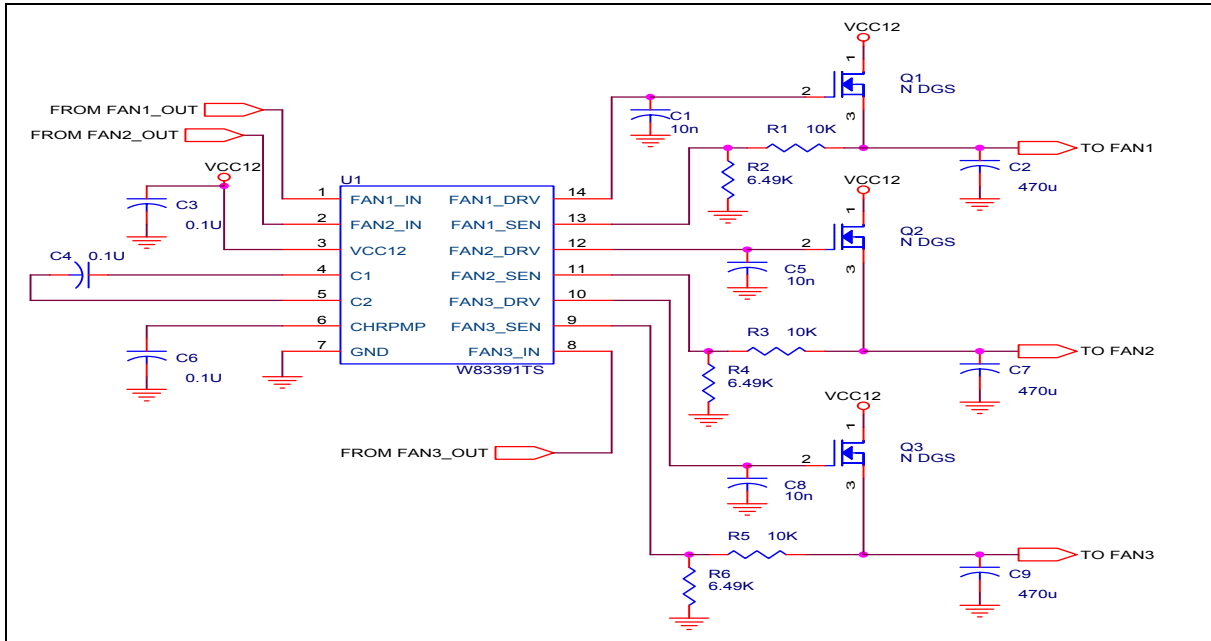
## 2. PIN CONFIGURATION AND DESCRIPTION



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 <sup>rd</sup> Fan Voltage Regulation.
10	FAN3_DRV	Voltage Driving Pin for 3 <sup>rd</sup> Fan Voltage Regulation.
11	FAN2_SEN	Voltage Sensing Pin for 2 <sup>nd</sup> Fan Voltage Regulation.
12	FAN2_DRV	Voltage Driving Pin for 2 <sup>nd</sup> Fan Voltage Regulation.
13	FAN1_SEN	Voltage Sensing Pin for 1 <sup>st</sup> Fan Voltage Regulation.
14	FAN1_DRV	Voltage Driving Pin for 1 <sup>st</sup> Fan Voltage Regulation.

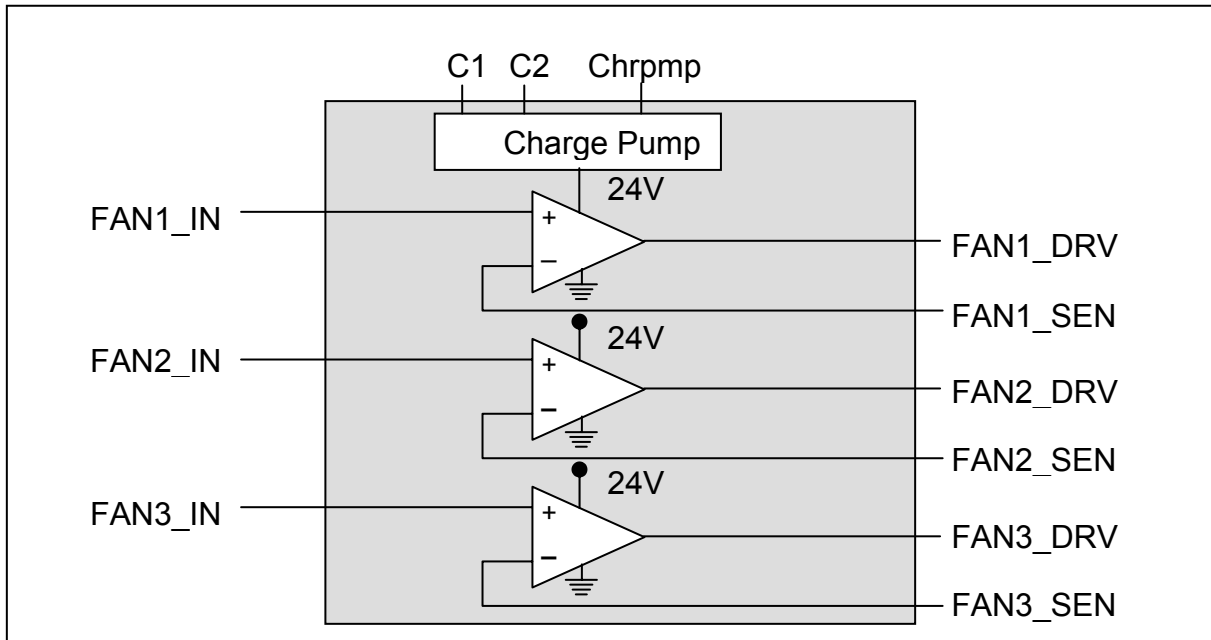
## 3. APPLICATION CIRCUIT

- W83391TS/TG



## 4. INTERNAL BLOCK DIAGRAM

- W83391TS/TG





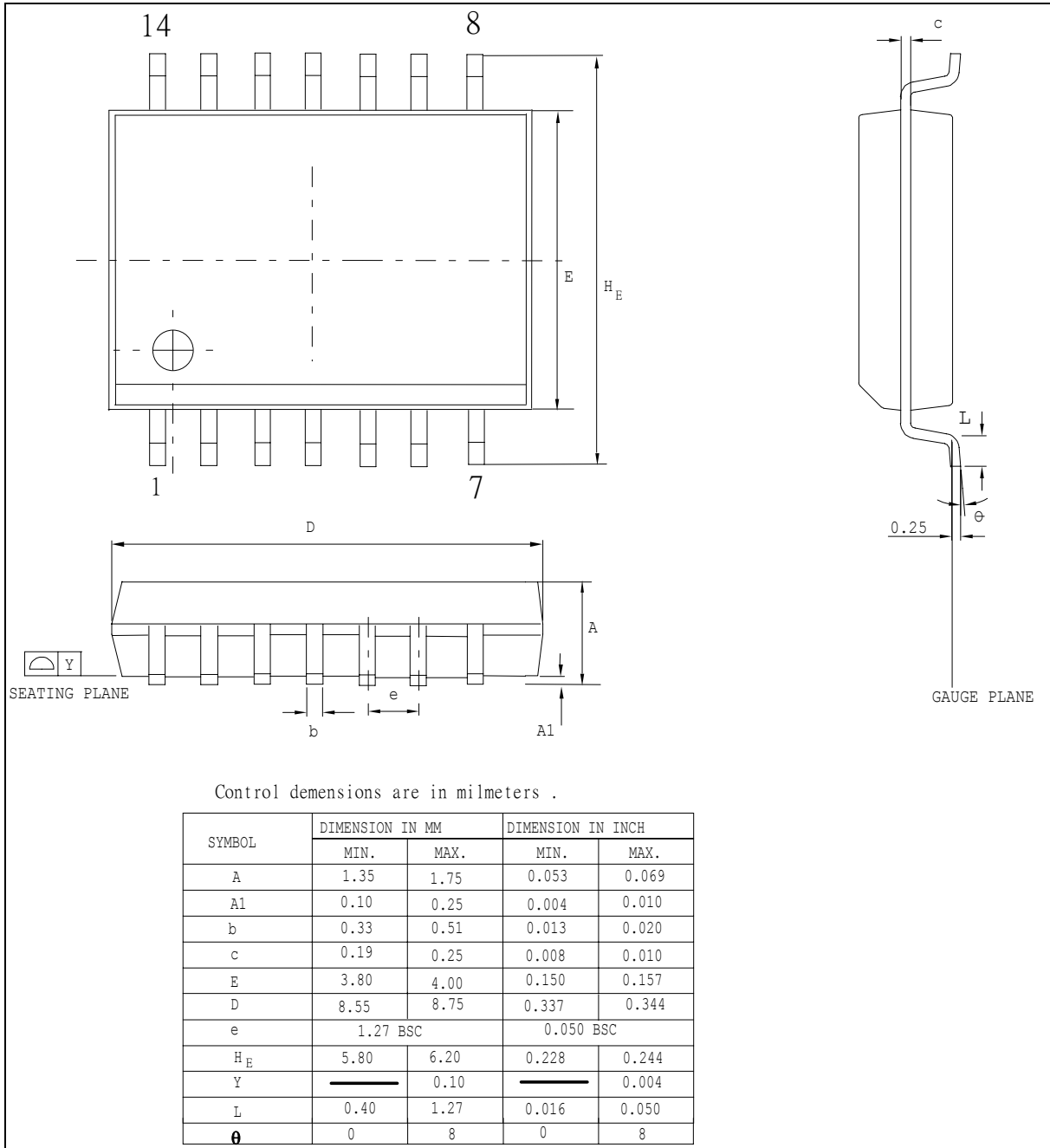
## 5. ELECTRICAL SPECIFICATION

## 6. AC CHARACTERISTICS

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

## 7. PACKAGE DIMENSION

- W83391TS/TG; 14L SOP 150mil

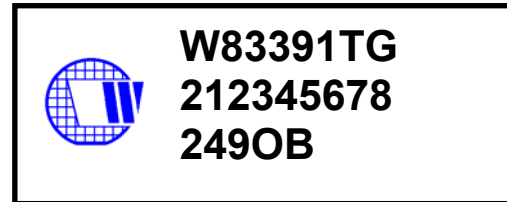
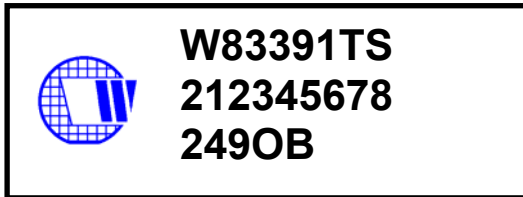




## 8. ORDERING INFORMATION

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

1<sup>st</sup> line: W83391TS, W83391TG – the part number

2<sup>nd</sup> line: Chip lot no

3<sup>rd</sup> 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

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