



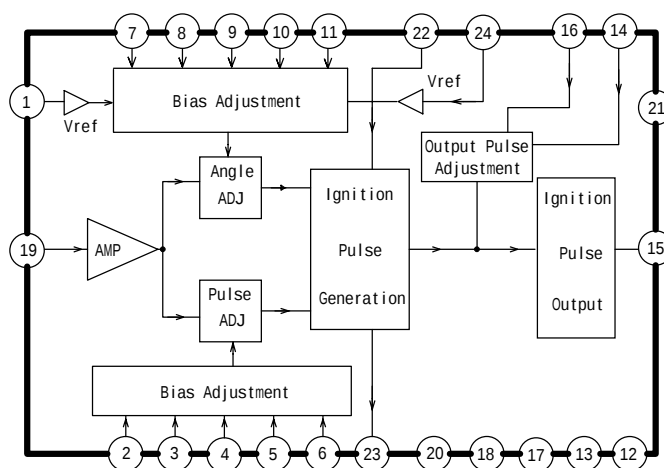
1. Overview

The HS2981 is an ignition controller IC for large power motorcycle. It has features of high reliability, convenience and simple circuit.

- Low number of external components
- Easy adjustment
- Low quiescent current (Typ 15mA) and low power dissipation
- Ignition time and power is set according to the motor rotation speed
- DIP24

2. Block Diagram and Pin Description

2.1 Block Diagram



2.2 Pin Description

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	V_{ref1}	Reference Voltage 1	13	GND	GND
2	ADJ_{V1}	Voltage Adjustment 1	14	ADJ_{VO1}	Output Adjustment 1
3	V_{ref2}	Reference Voltage 2	15	V_O	Output
4	ADJ_{V2}	Voltage Adjustmen2	16	ADJ_{VO2}	Output Adjustment 2
5	ADJ_{V3}	Voltage Adjustmen3	17	GND	GND
6	V_{ref3}	Voltage Adjustmen3	18	NC	NC
7	ADJ_{I1}	Current Adjustment 1	19	V_{in}	Input
8	ADJ_{I2}	Current Adjustment 2	20	NC	NC
9	ADJ_{I3}	Current Adjustment 3	21	V_{CC}	Supply Voltage
10	ADJ_{I4}	Current Adjustment 4	22	DISCHG	Discharge
11	ADJ_{I5}	Current Adjustment 5	23	CHG	Charge
12	GND	GND	24	V_{ref4}	Reference Voltage 4

3. Electrical Characteristics

3.1 Absolute Maximum Ratings

Unless otherwise specified, $T_{amb} = 25^{\circ}\text{C}$

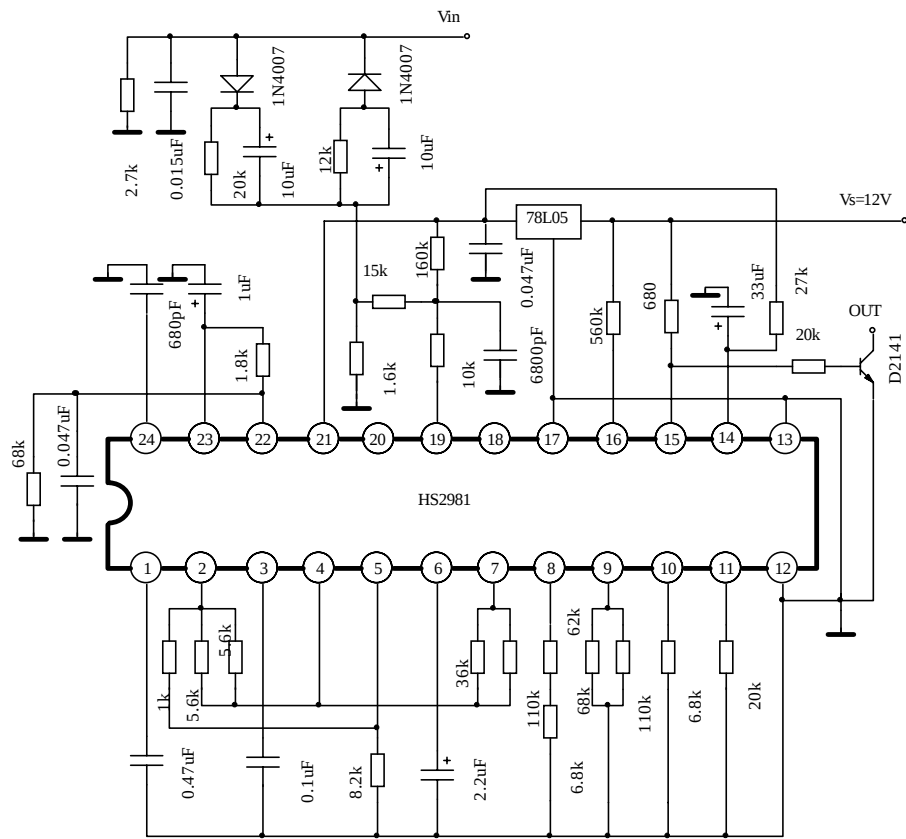
Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	12	V
Power Dissipation	P_D	1.2	W
Operating Temperature	T_{amb}	-40 ~ 85	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	150	$^{\circ}\text{C}$

3.2 Electrical Characteristics

Unless otherwise specified, $T_{amb} = 25^{\circ}\text{C}$, $V_{CC} = 5\text{V}$, $V_{19} = 5\text{V}$

Parameter	Symbol	Test Conditions	Value			Unit
			Min	Typ	Max	
Quiescent Current	I_{CCQ}	$V_{CC} = 4\text{V}$		11		mA
		$V_{CC} = 5\text{V}$	10	15	20	
		$V_{CC} = 7\text{V}$		21		
Pin 1 Reference Voltage	V_1	$V_{19} = 0\text{V}$		4.4		V
Pin 6 Reference Voltage	V_6	$V_{19} = 0\text{V}$		0		V
Pin 2 Voltage	V_2			0.3		V
Pin 3 Voltage	V_3	$V_{19} = 0\text{V}$		0.1		V
Pin 4 Voltage	V_4			0.4		V
Pin 5 Voltage	V_5			0.3		V
Pin 7 Voltage	V_7			1.4		V
Pin 8 Voltage	V_8			1.4		V
Pin 9 Voltage	V_9			1.4		V
Pin 10 Voltage	V_{10}			1.3		V
Pin 11 Voltage	V_{11}			1.4		V
V14 Output Adjustment	V_{14OL}	$V_{19} = 0\text{V}$		50		mV
V14 Output Adjustment	V_{14OH}			2.3		V
Output High Level	V_{15OH}	$V_{19} = 0\text{V}$	1.0	1.6		V
Output Low Level	V_{15OL}			0.1	0.3	V
Pin 24 Voltage	V_{24}			10		mV
Input Low Level	V_{22OL}	$V_{19} = 0\text{V}$		0.2		V
Input High Level	V_{22OH}			2.9		V
Input Low Level	V_{23OL}	$V_{19} = 0\text{V}$		50		mV
Input High Level	V_{23OH}			2.9		V

4. Application Circuit



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