RE46C108

Piezoelectric Horn Driver and Voltage Regulator Product Specification

General Description

The RE46C108 is a piezoelectric horn driver with a voltage regulator that can operate at 3.3V or 5V. It is intended for applications requiring a 9V horn driver with a low voltage logic supply. The horn feedback control pin is designed for use with self-oscillating piezoelectric horn but can also be used in direct drive applications.

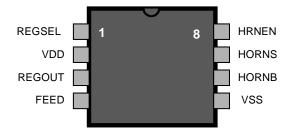
Applications

Smoke detectors CO Detectors Personal Security Products Electronic Toys

Features

- Low Quiescent Current
- Low Horn Driver Ron
- Voltage Regulation to 3.3V or 5V
- Available in DIP and SOIC packaging
- Available in Standard Packaging or RoHS Compliant Pb Free Packaging

Pin Configuration



Absolute maximum ratings

Supply Voltage V _{dd}	.5V to +14V
Input voltage Range V _{in}	3V to V_{DD} +.3V, except FEED
FEED Input Voltage Range Vinf	-10V to +22V
Input Current I _{in}	10mA, except FEED
Operating Temperature	-40 to 85°C
Continuous Output Current (HornS, HornB)	30mA
Continuous Output Current (REGOUT)	55mA

Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only and operation at these conditions for extended periods may affect device reliability.

This product utilizes CMOS technology with static protection; however proper ESD prevention procedures should be used when handling this product. Damage can occur when exposed to extremely high static electrical charges



Electrical Characteristics at $T_A = 25$ °C, $V_{DD} = 9V$, $V_{SS} = 0V$ (unless otherwise noted).

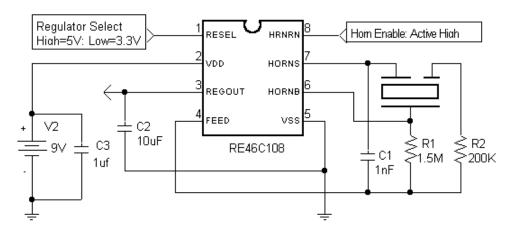
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Parameter	Pin	Test Conditions	Min	Тур	Max	Units
Supply Voltage	Vdd	Operating	6.0	9.0	13.8	V
Standby Supply Current	Vdd	Hrnen=Vss; No Loads			4	uA
Input Leakage	Hrnen,Resel	Vin=Vdd or Vss	-100		100	nA
	FEED	Feed = +22V		20	50	uA
	FEED	Feed = -10V	-50	-15		uA
Input Voltage Low	Hrnen, Regsel				1.0	V
Input Voltage High	Hrnen, Regsel		2.3			٧
Output Low Voltage	Horns or Hornb	lout=16mA; Vdd=9V Vdd=7.2V		0.3	0.5 0.9	V V
Output High Voltage	Horns or Hornb	lout=-16mA; Vdd=9V Vdd=7.2V	8.5 6.3	8.7		V V
Regulator Voltage	Regout	Iout<50mA; Regsel=Vdd Iout<50mA; Regsel=Vss T _A =-40 to 85°C See note #3	4.75 3.10	5.0 3.3	5.25 3.50	V V
Line Regulation	Regout	6V <vdd<12v; load<="" no="" td=""><td></td><td>30</td><td></td><td>mV</td></vdd<12v;>		30		mV
Load Regulation	Regout	0mA <lout<20ma< td=""><td></td><td>100</td><td></td><td>mV</td></lout<20ma<>		100		mV
Brown-Out Threshold Voltage *See note #1	Vdd	Regsel=Vdd or Vss Falling edge of Vdd	4.5	5.0	5.5	V
Brown-Out Pull Down Current	Regout	Vdd=4.5V; Regout=2V	15	25		mA
Regout Overvoltage Clamp *See note #2	Regout	Regsel=Vdd; lout > 1mA Regsel=Vss; lout > 1mA	5.5 3.7	6.0 4.0	6.5 4.3	V V

Notes:

- 1/ The brown-out threshold voltage is the Vdd voltage at which the regulator will be disabled and Regout will be pulled to Vss.
- 2/ In normal operation, the regulator will provide high-side current of up to 20mA, but current sinking capability is typically under 1uA. The overvoltage clamp is intended to limit the voltage at Regout when it is pulled up by an external source.
- 3/ The limits shown are 100% tested at 25C only. Test limits are guard-banded based on temperature characterization to guarantee compliance at temperature extremes.

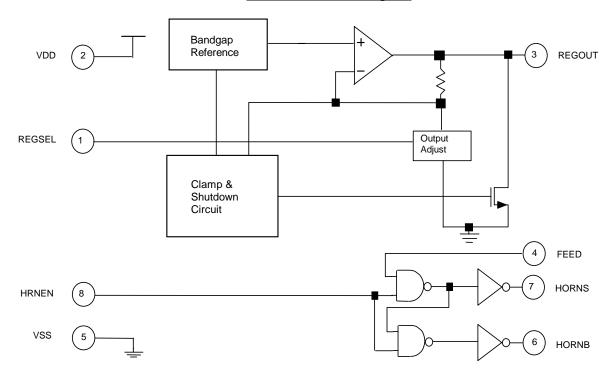


Typical Application



Typical Application Using Self Resonating Piezoelectric Horn

Functional Block Diagram



RE46C108

Piezoelectric Horn Driver and Voltage Regulator

Product Specification



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