1.3-GHz Prescaler for CATV Tuners

Technology: Bipolar

Features

- TTL output
- ESD protected
- Low current consumption
- High input sensitivity
- Slope steepness of the output level adjustable at pin 6

Case: 8-pin dual inline plastic

Block Diagram

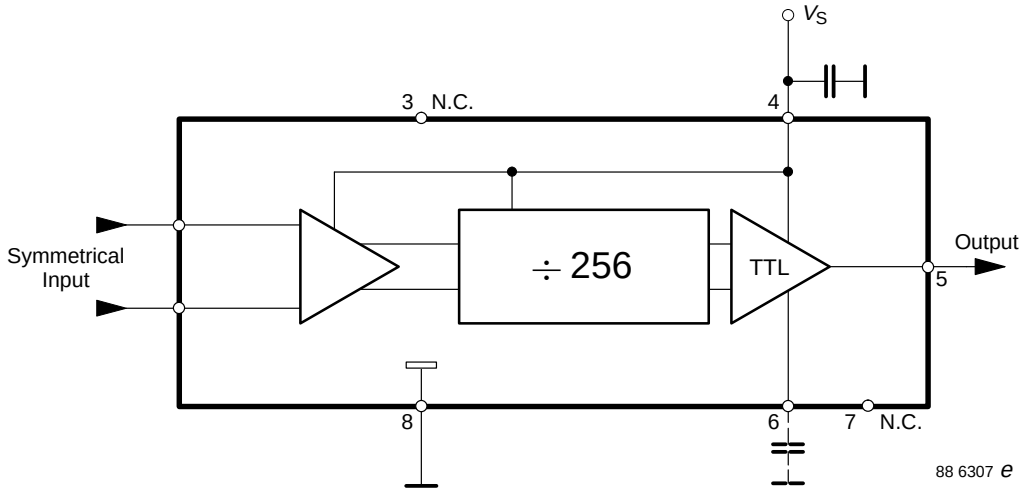


Figure 1 Block diagram

Absolute Maximum Ratings

Parameters		Symbol	Value	Unit
Supply voltage	Pin 4	V_S	6	V
Input voltage range	Pin 1, 2	V_i	0 ... V_S	V
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	–40 ... +125	°C
Ambient temperature range		T_{amb}	–25 ... +70	°C

Thermal Resistance

Parameters	Symbol	Maximum	Unit
Junction ambient	R_{thJA}	100	K/W

Pin Connection

Pin	Function
1, 2	Input
4	Supply voltage (V_S)
5	Output

Pin	Function
6	Open or capacitor to ground
8	Ground
3,7	n.c.

Notes

In order to avoid damage prescaler must be handled as a MOS device. The device is self oscillating without input signal.

Electrical Characteristics

V_S = 4.5 ... 5.5 V, T_{amb} = 0 ... +70 °C, unless otherwise specified

Parameters 200	Test Conditions / Pin	Symbol	Min	Typ	Max	Unit
Supply current	V_S = 5 V Pin 4	I_S		35	48	mA
Input sensitivity [1]	R_G = 50 Ω f_i = 70 MHz Pin 1,2	V_i		6	10	mV
	f_i = 150 ... 1000 MHz	V_i		1	5	mV
	f_i = 1300 MHz	V_i		4	20	mV
Large signal compatibility[1]	R_G = 50 Ω Pin 1,2	V_i	300			mV
Frequency range		f_{imin}			70	MHz
		f_{imax}	1300			MHz
TTL output	Pin 5					
High level	I_{OH} = 0.2 mA	V_{OH}	3.3			V
Low level	I_{OL} = –2 mA	V_{OL}			0.4	V

[1] RMS-voltage calculated from the measured available power

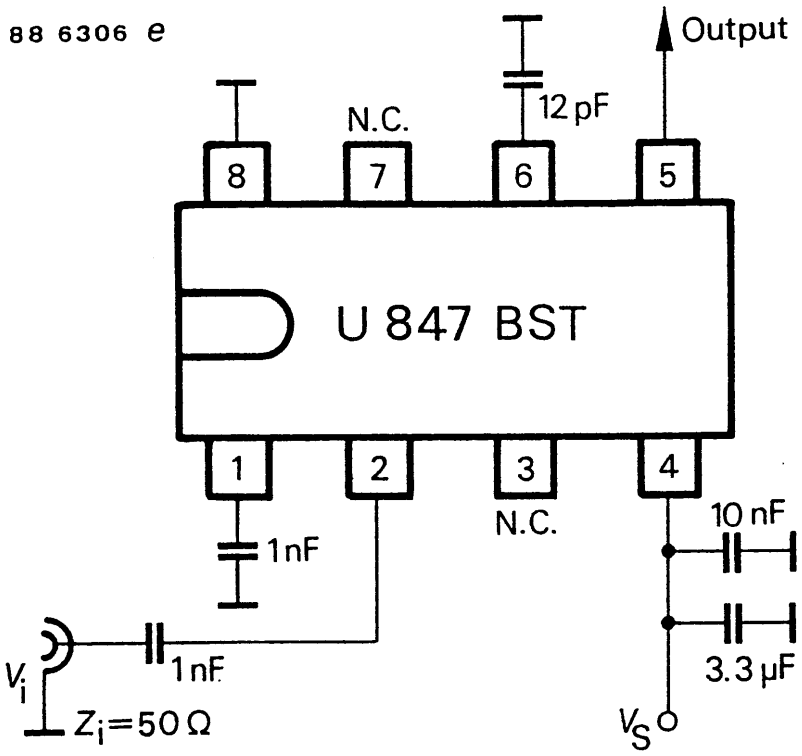


Figure 2 Test circuit

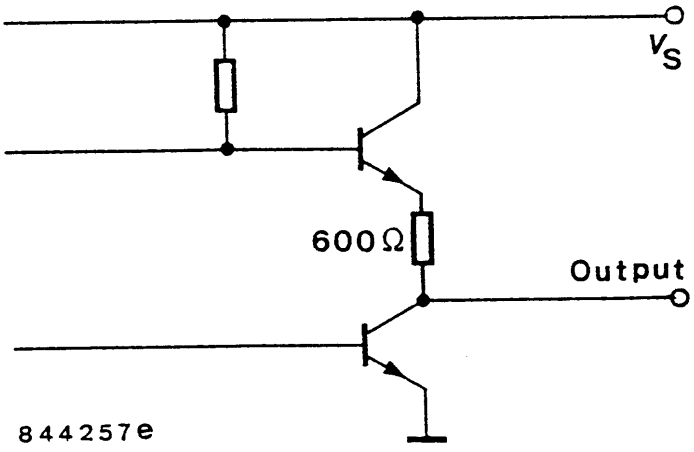
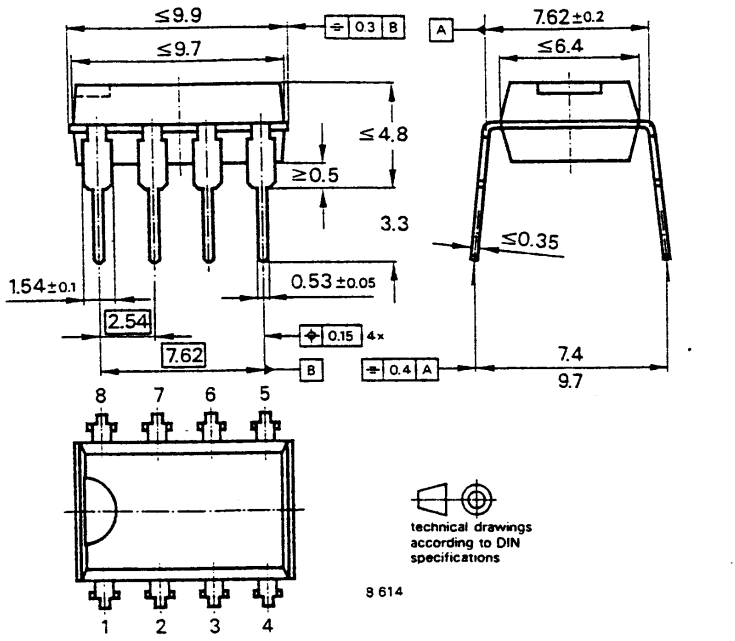


Figure 3 TTL output circuit

Dimensions in mm



Case
DIP 8-leads

OZONE DEPLETING SUBSTANCES POLICY STATEMENT

It is the policy of **TEMIC TELEFUNKEN microelectronic GmbH** to

1. Meet all present and future national and international statutory requirements and

2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

Of particular concern is the control or elimination of releases into the atmosphere of those substances which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) will soon severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

TEMIC TELEFUNKEN microelectronic GmbH semiconductor division has been able to use its policy of continuous improvements to eliminate the use of any ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively

2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA and

3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

TEMIC can certify that our semiconductors are not manufactured with and do not contain ozone depleting substances.

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