

DS8673/DS8674 Low Power VHF/UHF Prescalers

General Description

The DS8673 and DS8674 products are low power prescalers which divide by 64 and 256 respectively. The devices are used in frequency synthesis applications such as TV/CATV, cellular phone, and instrumentation to divide a very high frequency down to a frequency usable by low power MOS PLL's.

The devices have differential buffered inputs and complementary ECL outputs. The inputs provide high input sensitivity and good isolation. The DS8673 is pin compatible with Plessey's SP4531, SP4632, and Motorola's MC12073 prod-

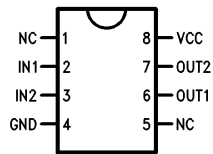
ucts. The DS8674 is pin compatible with Plessey's SP4653 and Motorola's MC12074 products.

Features

- 1.0 GHz operating frequency
- 25 mA typical supply current
- 20 mV rms input sensitivity
- 0.8V complementary ECL outputs
- Low output radiation

Block and Connection Diagrams

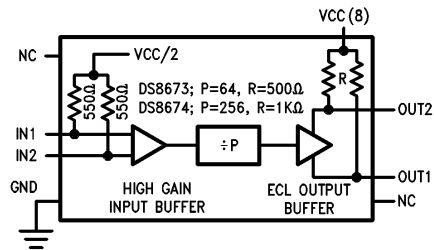
Dual-In-Line Package



TL/F/9340-1

Top View

Order Number DS8673N or DS8674N
See NS Package Number N08E



TL/F/9340-2

Absolute Maximum Ratings (Note 1)

If Military/Aerospace specified devices are required, please contact the National Semiconductor Sales Office/Distributors for availability and specifications.

Supply Voltage 7V
Input Voltage 7V

Output Voltage $V_{CC} + 0.5V$
Operating Free Air Temperature Range $-40^{\circ}C$ to $+85^{\circ}C$
Storage Temperature Range $-65^{\circ}C$ to $+150^{\circ}C$
ESD rating is to be determined.

Recommended Operating Conditions

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{CC}	Power Supply Voltage Range		4.5		5.5	V
F_{IN}	Input Frequency Range	V_{IN} Min	80		1,000	MHz
V_{IN}	Input Sensitivity into 50Ω	80 MHz	20		200	mV rms
		300 MHz	20		200	
		500 MHz	20		200	
		700 MHz	20		200	
		1 GHz	20		200	

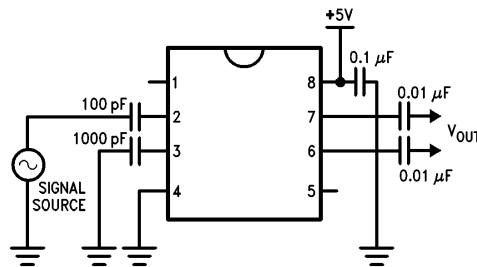
DC Electrical Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Units
I_{CC}	Power Supply Current	$V_{CC} = 5.5V$		25	35	mA
V_{OUT}	Output Voltage Swing	Peak-to-Peak (no load)	0.8	1.2	1.6	V

Note 1: "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. Except for "Operating Temperature Range" they are not meant to imply that the devices should be operated at these limits. The table of "Electrical Characteristics" provides conditions for actual device operation.

Typical Applications

Typical Wiring Configuration

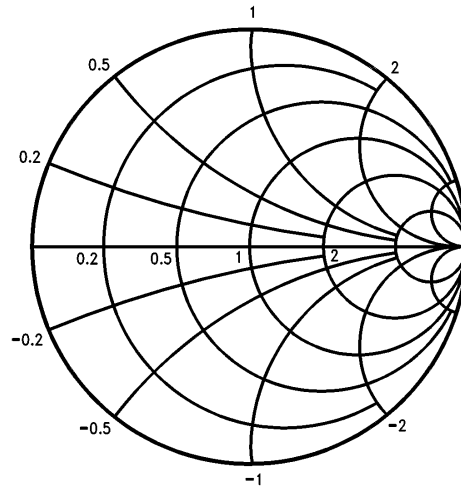


TL/F/9340-3

Typical Applications (Continued)

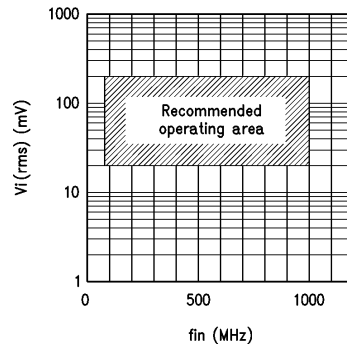
Typical Input Impedance

Reference value = 50Ω
 V_i (rms) = 25 mV
 V_{CC} = 5V
Waveshape is TBD



TL/F/9340-4

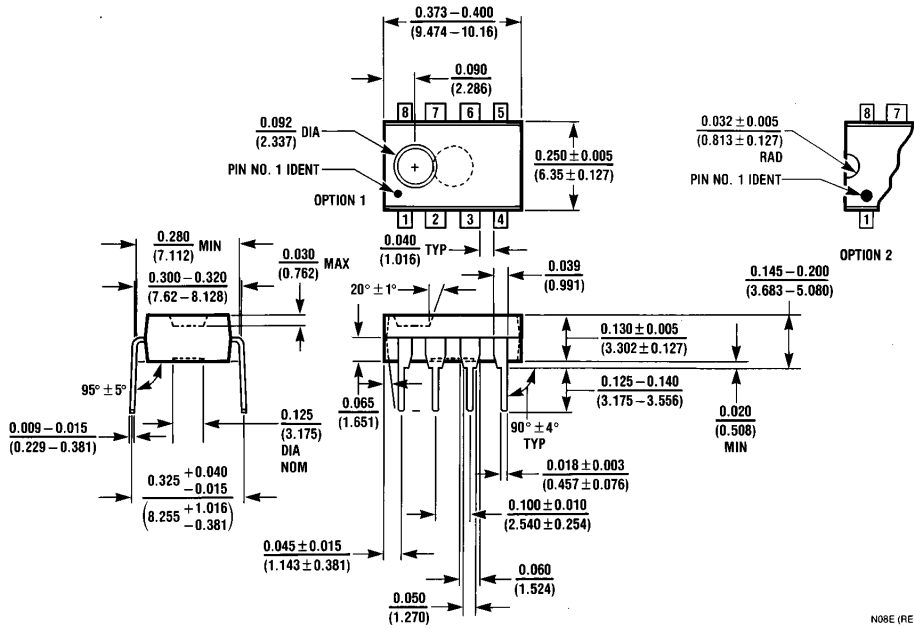
Typical Sensitivity Curve Under Nominal Conditions



TL/F/9340-5

Physical Dimensions inches (millimeters)

Lit. # 103367



Molded Dual-In-Line Package (N)
Order Number DS8673N or DS8674N
NS Package Number N08E

N08E (REV F)

LIFE SUPPORT POLICY

NATIONAL'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF NATIONAL SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.



National Semiconductor Corporation
 1111 West Bardin Road
 Arlington, TX 76017
 Tel: (800) 272-9959
 Fax: (800) 737-7018

National Semiconductor Europe
 Fax: (+49) 0-180-530 85 86
 Email: cnjwge@tevm2.nsc.com
 Deutsch Tel: (+49) 0-180-530 85 85
 English Tel: (+49) 0-180-532 78 32
 Français Tel: (+49) 0-180-532 93 58
 Italiano Tel: (+49) 0-180-534 16 80

National Semiconductor Hong Kong Ltd.
 19th Floor, Straight Block,
 Ocean Centre, 5 Canton Rd.
 Tsimshatsui, Kowloon
 Hong Kong
 Tel: (852) 2737-1600
 Fax: (852) 2736-9960

National Semiconductor Japan Ltd.
 Tel: 81-043-299-2309
 Fax: 81-043-299-2408

National does not assume any responsibility for use of any circuitry described, no circuit patent licenses are implied and National reserves the right at any time without notice to change said circuitry and specifications.

This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.

National Semiconductor was acquired by Texas Instruments.

http://www.ti.com/corp/docs/investor_relations/pr_09_23_2011_national_semiconductor.html

This file is the datasheet for the following electronic components:

DS8673N - <http://www.ti.com/product/ds8673n?HQS=TI-null-null-dscatalog-df-pf-null-wwe>

DS8674N - <http://www.ti.com/product/ds8674n?HQS=TI-null-null-dscatalog-df-pf-null-wwe>



LittleDiode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.