



Obsolescence Notice

This product is obsolete.

This information is available for your convenience only.

For more information on Zarlink's obsolete products and replacement product lists, please visit

http://products.zarlink.com/obsolete_products/

Features

- Very High Speed Operation 3.3GHz
- Silicon Technology for low Phase Noise (Typically better than -140dBc/Hz at 10kHz)
- Specified Over the Full Military Temperature Range
- Low Power Dissipation 420mW (typ)
- 5V Single Supply Operation
- High Input Sensitivity
- Very Wide Operating Frequency Range
- Available as DESC SMD 5962-9066101MPA

Description

The SP8802 is one of a range of very high speed low power prescalers for professional and military applications. The device features a complementary output stage with on chip current source for the emitter follower outputs

DS2111

ISSUE 7.2

June 1999

Ordering Information
 SP8802/A/DG Military temperature range
 DES9066101/AC/DGAZ (SMD)

Thermal Characteristics

$\theta_{ja} = 150^{\circ}\text{C/W}$
 $\theta_{jc} = 50^{\circ}\text{C/W}$

Absolute Maximum Ratings

| | |
|---------------------------|-----------------|
| Supply voltage V_{CC} | 6.5V |
| Clock Input voltage | 2.5V p-p |
| Storage temperature range | -65°C to +150°C |
| Junction temperature | +175°C |

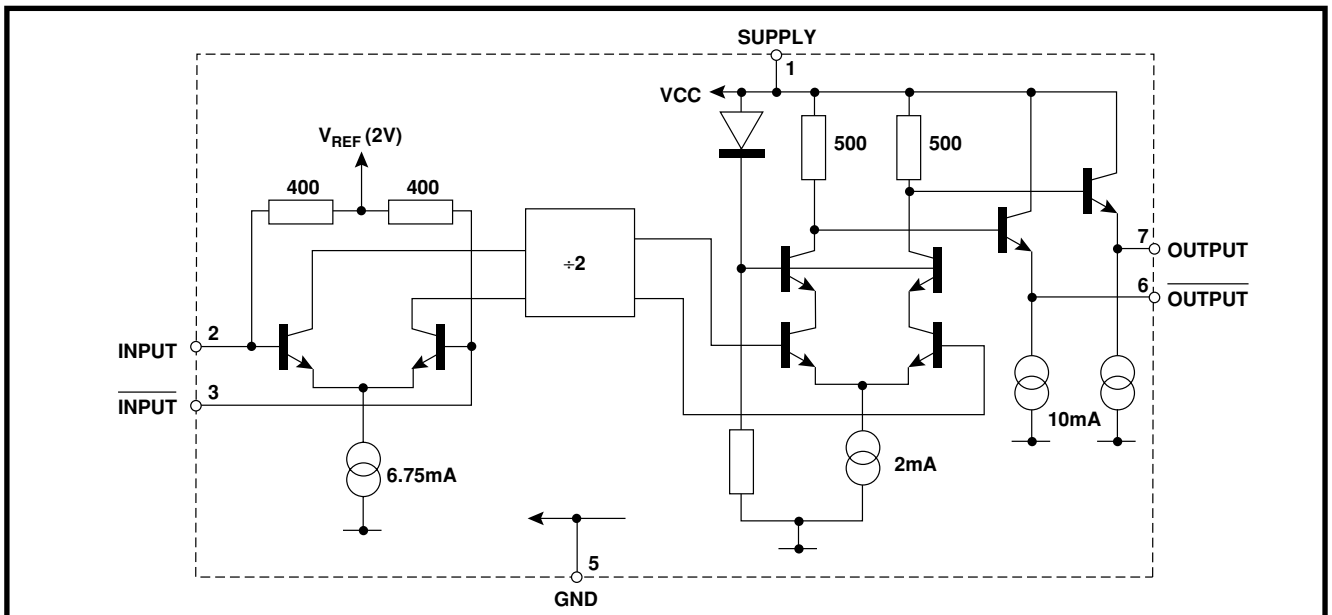


Figure 1 SP8802 Block diagram

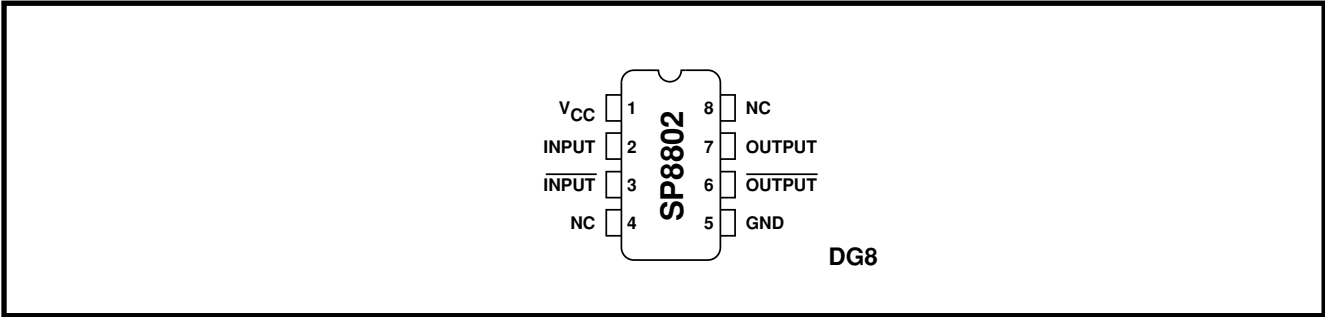


Figure 2 Pin connections

Electrical Characteristics

Guaranteed over the temperature range T_{amb} -55°C to +125°C (see note) and supply voltage range 4.75V to 5.25V. Tested at T_{amb} = -55°C and +100°C, V_{CC} = 4.75V and 5.25V.

| Characteristic | Pin | Value | | | Units | Conditions |
|--|------|-------|------|-----|----------|---|
| | | Min | Typ | Max | | |
| Supply current | 1 | | 84 | 100 | mA | V_{CC} = 5V |
| Input sensitivity 0.65GHz to 2.8GHz | 2, 3 | | | 175 | mV | RMS sinewave measured in 50 ohm system. See Figs. 3 & 4 |
| 3.3GHz | | | | 400 | mV | |
| Input impedance (series equivalent) | 2, 3 | | 50 | | Ω | V_{CC} = 5V |
| | | | 2 | | pF | |
| Output Voltage with f_{in} = 1000MHz | 6, 7 | 0.8 | 1 | | Vp-p | V_{CC} = 5V load as Fig. 4 |
| Output Voltage with f_{in} = 3GHz | 6, 7 | | 0.35 | | Vp-p | |

NOTE: Devices must be used with a suitable heatsink to maintain chip temperature below 175°C when operating at T_{amb} > 100°C.

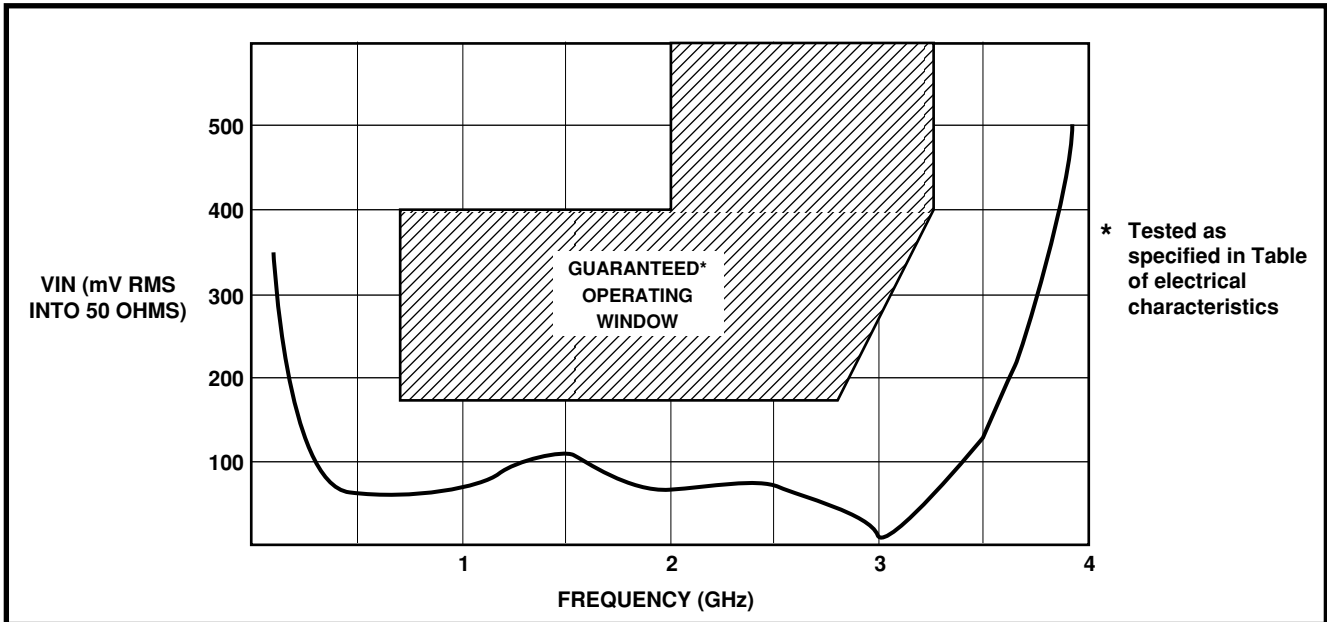


Figure 3 Typical input sensitivity

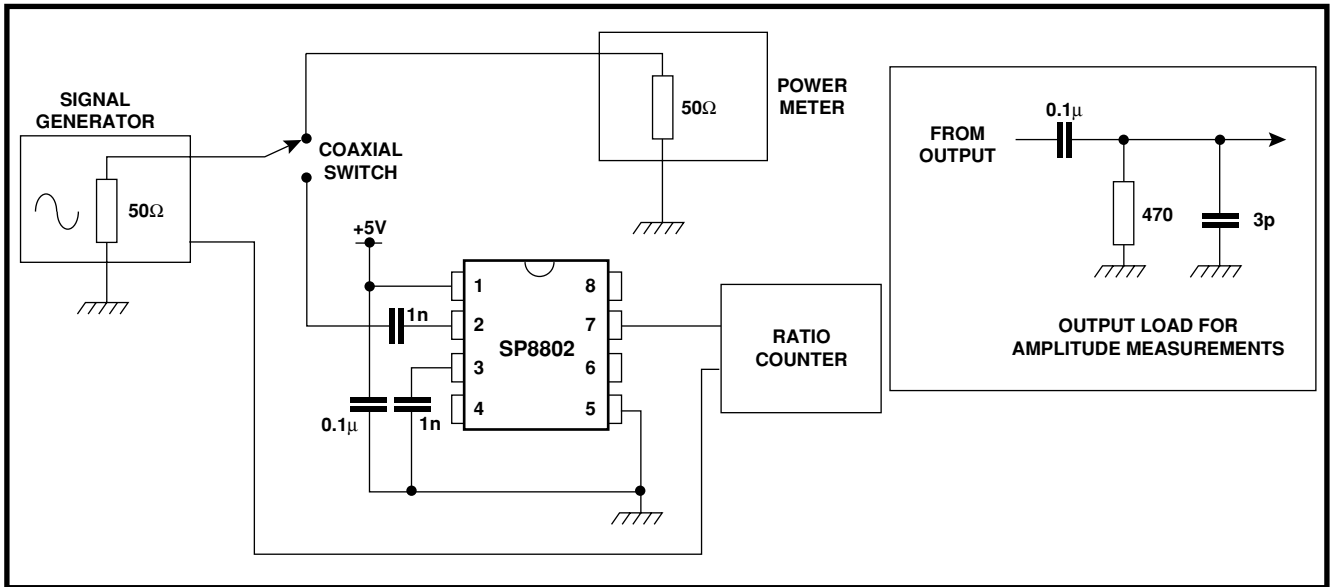


Figure 4 Test circuit

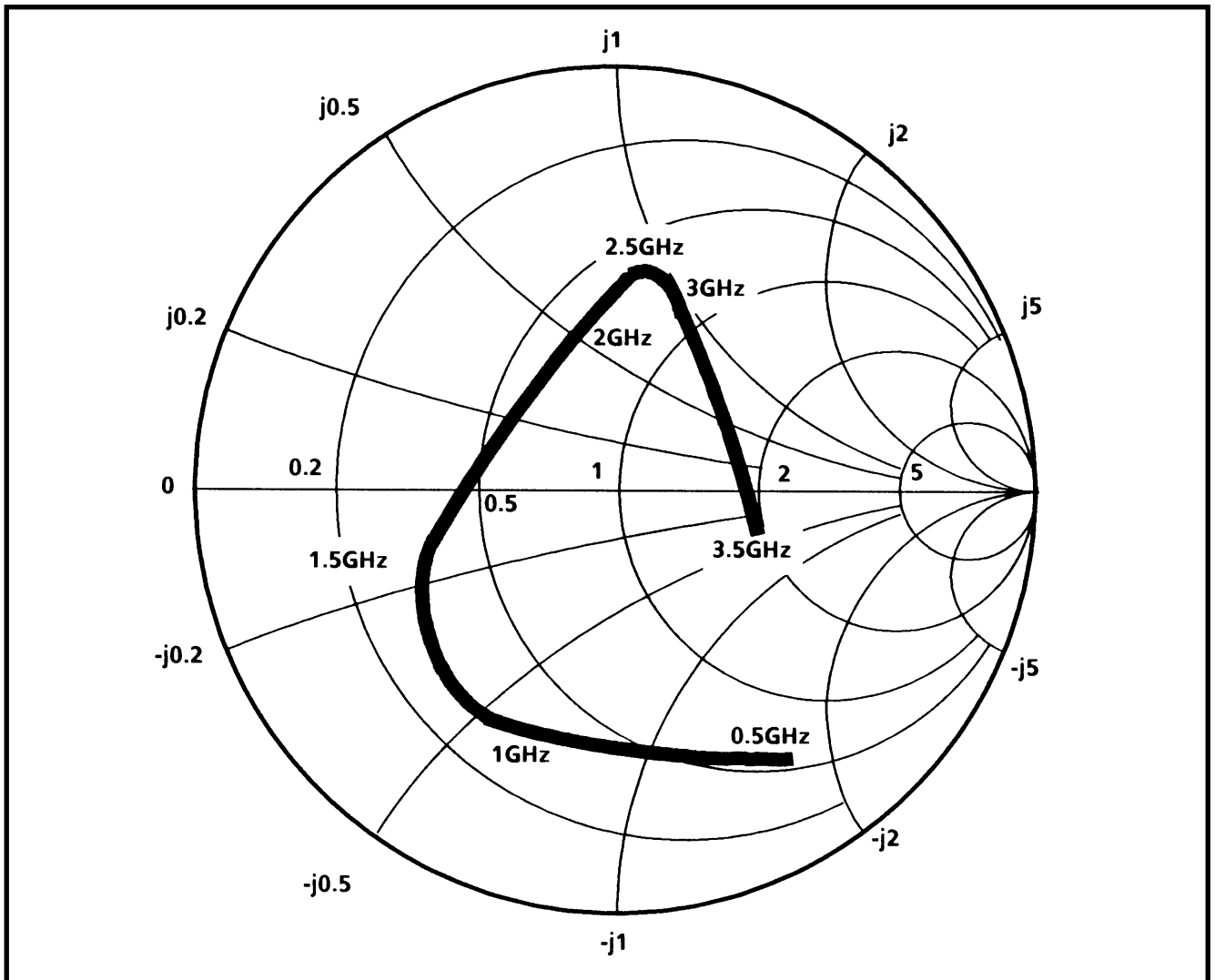
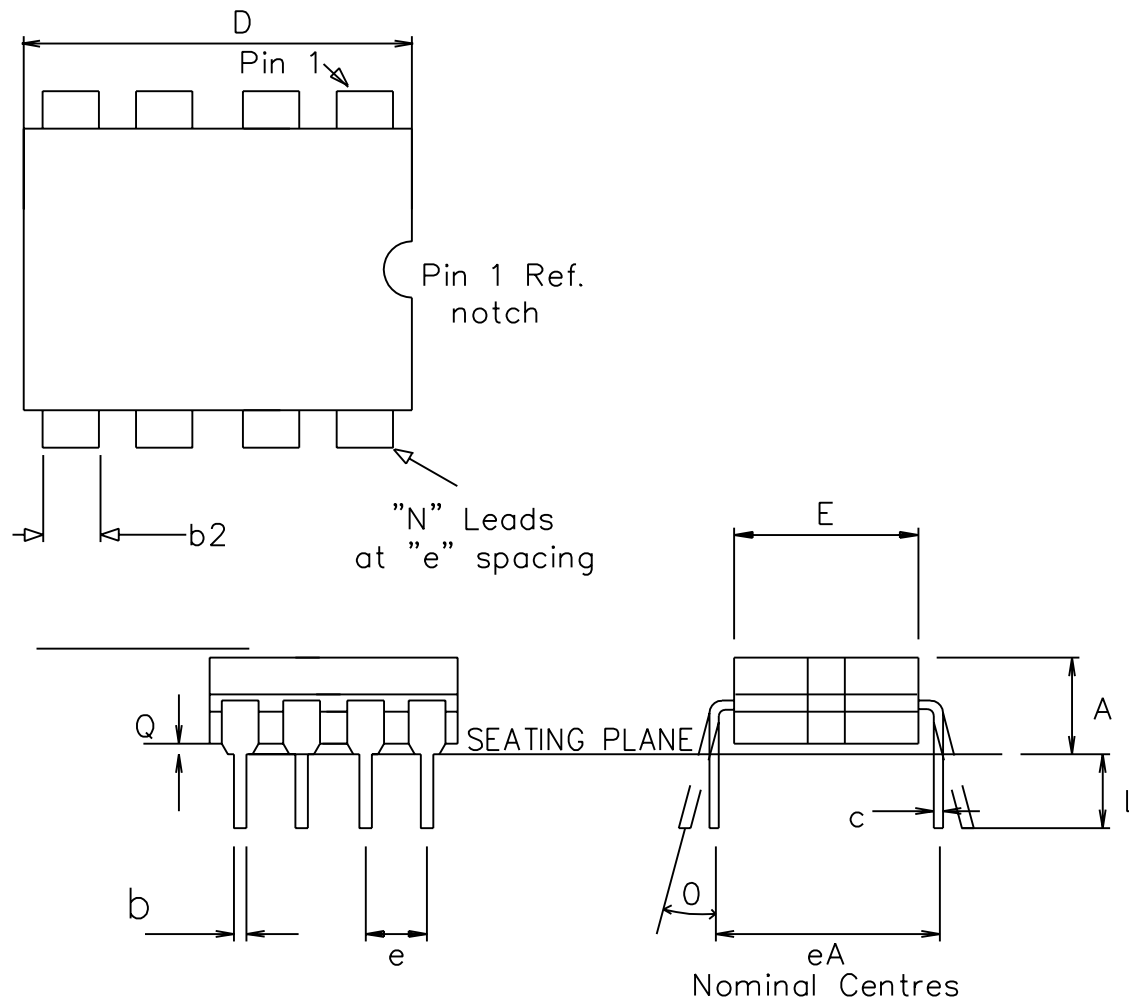


Figure 5 Typical input impedance



| Symbol | Altern. Dimensions in millimetres | | | Control Dimensions in inches | | |
|--------------|--------------------------------------|---------|-------|---------------------------------|---------|-------|
| | MIN | Nominal | MAX | MIN | Nominal | MAX |
| L | 3.18 | | 4.06 | 0.125 | | 0.160 |
| A | | | 5.08 | | | 0.200 |
| Q | 0.51 | | | 0.020 | | |
| E | 5.59 | | 7.87 | 0.220 | | 0.310 |
| eA | | 7.62 | | | 0.300 | |
| c | 0.20 | | 0.36 | 0.008 | | 0.014 |
| D | | | 10.29 | | | 0.405 |
| e | 2.54 BSC. | | | 0.100 BSC. | | |
| b2 | 1.14 | | 1.65 | 0.045 | | 0.065 |
| b | 0.36 | | 0.58 | 0.014 | | 0.023 |
| 0 | | | 15 | | | 15 |
| Pin features | | | | | | |
| N | | | | 8 | | |
| ND | | | | 4 | | |
| NE | | | | 0 | | |
| NOTE | RECTANGULAR | | | | | |

This drawing supersedes 418/ED/39501/001 (Swindon)

© Zarlink Semiconductor 2002 All rights reserved.

| ISSUE | 1 | 2 | | |
|--------|---------|---------|--|--|
| ACN | 201728 | 212450 | | |
| DATE | 20Nov96 | 26Mar02 | | |
| APPRD. | | | | |



Previous package codes

DG / C

Package Code **DH**

Package Outline for 8 lead DIL
(Glass Seal Ceramic)

GPD00270



**For more information about all Zarlink products
visit our Web Site at
www.zarlink.com**

Information relating to products and services furnished herein by Zarlink Semiconductor Inc. or its subsidiaries (collectively "Zarlink") is believed to be reliable. However, Zarlink assumes no liability for errors that may appear in this publication, or for liability otherwise arising from the application or use of any such information, product or service or for any infringement of patents or other intellectual property rights owned by third parties which may result from such application or use. Neither the supply of such information or purchase of product or service conveys any license, either express or implied, under patents or other intellectual property rights owned by Zarlink or licensed from third parties by Zarlink, whatsoever. Purchasers of products are also hereby notified that the use of product in certain ways or in combination with Zarlink, or non-Zarlink furnished goods or services may infringe patents or other intellectual property rights owned by Zarlink.

This publication is issued to provide information only and (unless agreed by Zarlink in writing) may not be used, applied or reproduced for any purpose nor form part of any order or contract nor to be regarded as a representation relating to the products or services concerned. The products, their specifications, services and other information appearing in this publication are subject to change by Zarlink without notice. No warranty or guarantee express or implied is made regarding the capability, performance or suitability of any product or service. Information concerning possible methods of use is provided as a guide only and does not constitute any guarantee that such methods of use will be satisfactory in a specific piece of equipment. It is the user's responsibility to fully determine the performance and suitability of any equipment using such information and to ensure that any publication or data used is up to date and has not been superseded. Manufacturing does not necessarily include testing of all functions or parameters. These products are not suitable for use in any medical products whose failure to perform may result in significant injury or death to the user. All products and materials are sold and services provided subject to Zarlink's conditions of sale which are available on request.

Purchase of Zarlink's I²C components conveys a licence under the Philips I²C Patent rights to use these components in and I²C System, provided that the system conforms to the I²C Standard Specification as defined by Philips.

Zarlink, ZL and the Zarlink Semiconductor logo are trademarks of Zarlink Semiconductor Inc.

Copyright Zarlink Semiconductor Inc. All Rights Reserved.

TECHNICAL DOCUMENTATION - NOT FOR RESALE
