



This product is obsolete.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/](http://products.zarlink.com/obsolete_products/)

***THIS DOCUMENT IS FOR MAINTENANCE  
PURPOSES ONLY AND IS NOT  
RECOMMENDED FOR NEW DESIGNS***

# SP8607 600MHz ÷ 2

The SP8607 is an emitter coupled logic divider which features ECL10K compatible outputs when used with external pulldown resistors. The inputs are AC coupled.

## FEATURES

- ECL Compatible Outputs
- AC-Coupled Inputs (Internal Bias)

## QUICK REFERENCE DATA

- Supply Voltage:  $-5.2\text{V}$
- Power Consumption: 80mW
- Temperature Range:
  - $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  (A Grade)
  - $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  (B Grade)

## ABSOLUTE MAXIMUM RATINGS

Supply voltage, $V_{EE}$	$-8\text{V}$
Output current	10mA
Storage temperature range	$-65^{\circ}\text{C}$ to $+150^{\circ}\text{C}$
Max. junction temperature	$+175^{\circ}\text{C}$
Max. clock input voltage	2.5V p-p

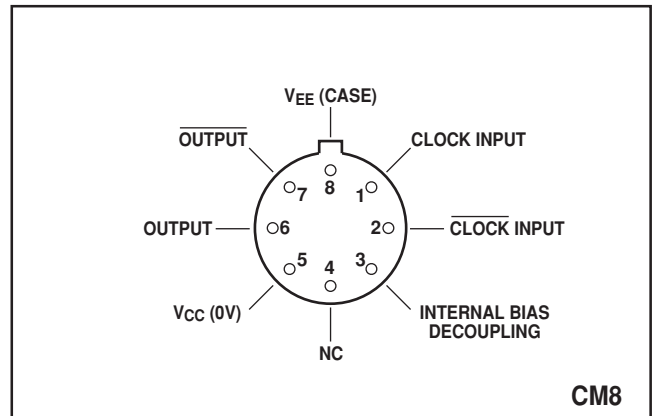


Fig. 1 Pin connections - bottom view

## ORDERING INFORMATION

SP8607 A CM  
SP8607 B CM  
SP8607 AC CM

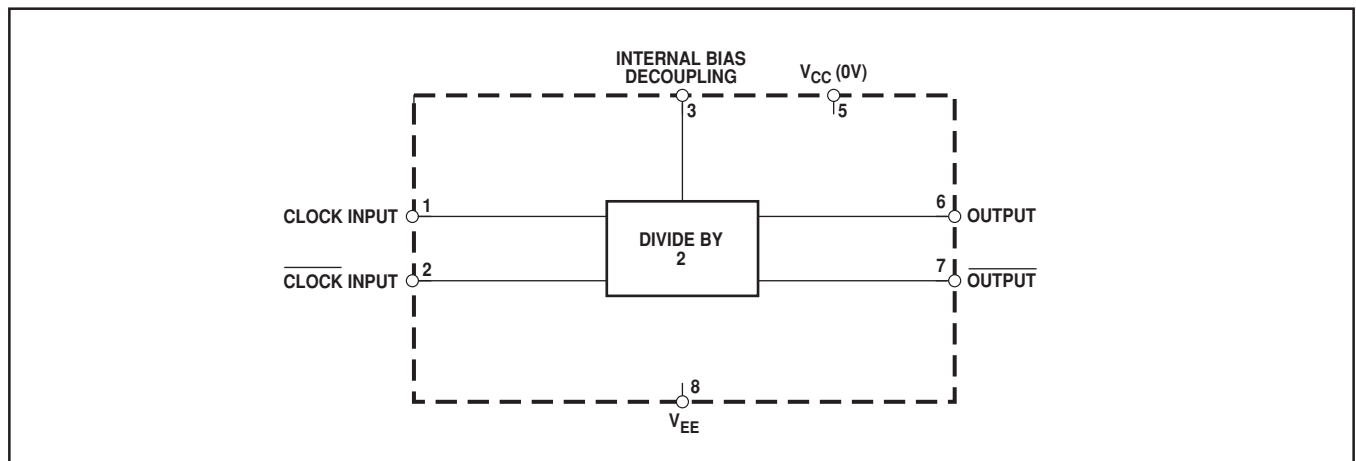


Fig. 2 Functional diagram

ELECTRICAL CHARACTERISTICS

Unless otherwise stated, the Electrical Characteristics are guaranteed over specified supply, frequency and temperature range  
Supply voltage,  $V_{CC} = 0V$ ,  $V_{EE} = -5.2V \pm 0.25V$   
Temperature,  $T_{AMB} = -55^{\circ}C$  to  $+125^{\circ}C$  (A Grade),  $-30^{\circ}C$  to  $+70^{\circ}C$  (B Grade)

Characteristic	Symbol	Value		Units	Conditions	Notes
		Min.	Max.			
Maximum frequency (sinewave input)	$f_{MAX}$	600		MHz	Input = 400-800mV p-p	
Minimum frequency (sinewave input)	$f_{MIN}$		40	MHz	Input = 400-800mV p-p	
Power supply current	$I_{EE}$		18	mA	$V_{EE} = -5.2V$ , outputs unloaded	
Output low voltage	$V_{OL}$	-1.8	-1.4	V	$V_{EE} = -5.2V$	3
Output high voltage	$V_{OH}$	-0.85	-0.7	V	$V_{EE} = -5.2V$	3
Minimum output swing	$V_{OUT}$	400		mV	$V_{EE} = -5.2V$	

NOTES

- 1. The temperature coefficients of  $V_{OH} = +1.63mV/^{\circ}C$ , and  $V_{OL} = +0.34mV/^{\circ}C$  but these are not tested.
- 2. The test configuration for dynamic testing is shown in Fig.5.
- 3. Tested at 25°C only.

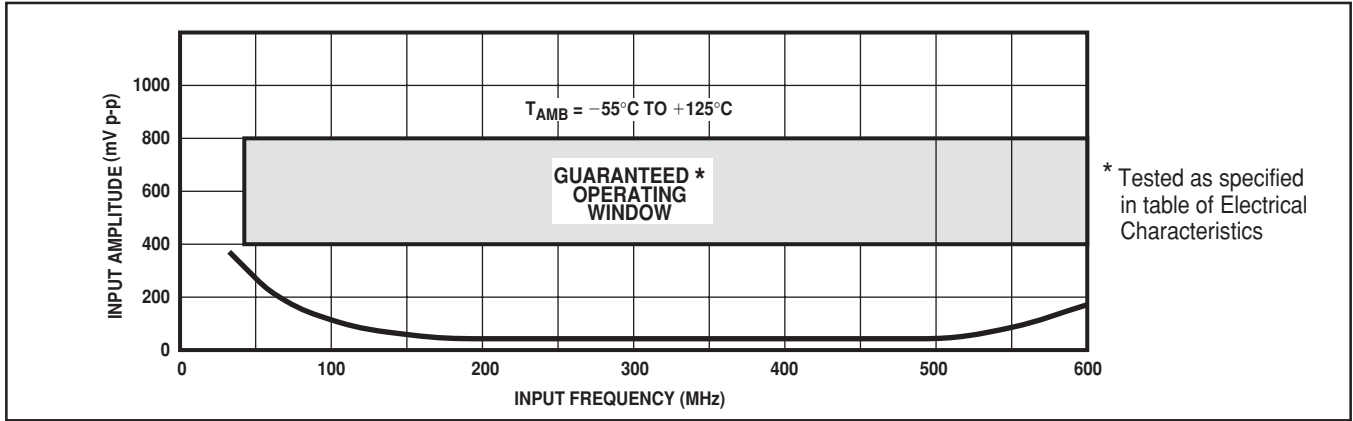


Fig. 3 Typical input characteristic of SP8607A

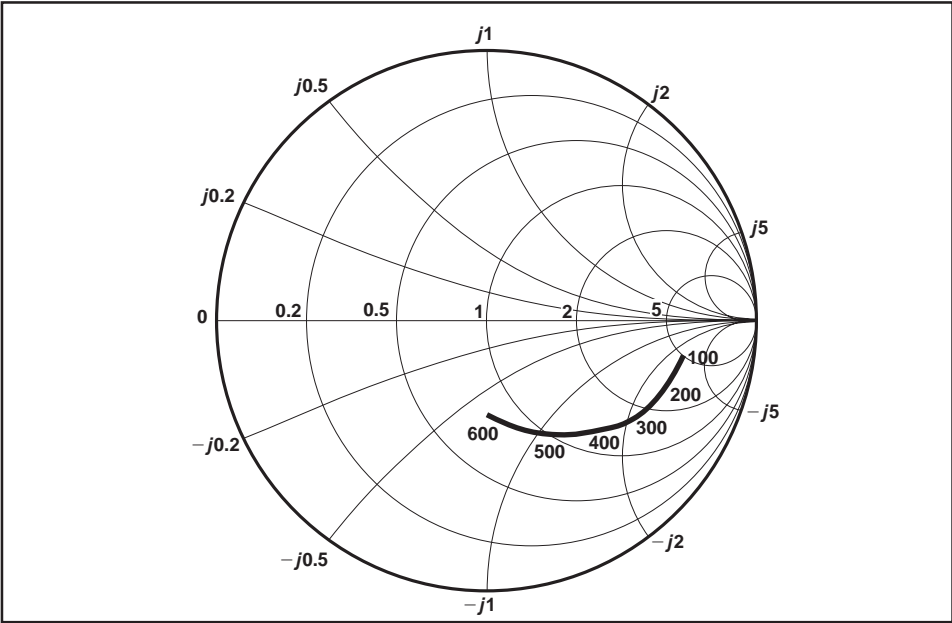


Fig. 4 Typical input impedance. Test conditions: supply voltage = -5.2V, ambient temperature = 25°C, frequencies in MHz, Impedances normalised to 50Ω

## OPERATING NOTES

1. The clock inputs (pins 1 and 2) can be driven single ended or differentially and should be capacitively coupled to the signal source. The input signal path is completed by connecting a capacitor from the internal bias decoupling, pin 3, to ground.

2. In the absence of a signal the device will self-oscillate. If this is undesirable, it may be prevented by connecting a  $15k\Omega$  resistor from the unused input to  $V_{EE}$ . This will reduce the input sensitivity by approximately 100mV.

3. The circuit will operate down to DC but slew rate must be better than  $100V/\mu s$ .

4. The outputs are compatible with ECLII. There is an internal load of  $4k\Omega$  on each output. The outputs can be interfaced to ECL10K by the addition of  $1.5k\Omega$  pulldown resistors from the outputs to  $V_{EE}$  to increase output voltage swing.

5. Input impedance is a function of frequency, See Fig. 4.

6. All components should be suitable for the frequency in use.

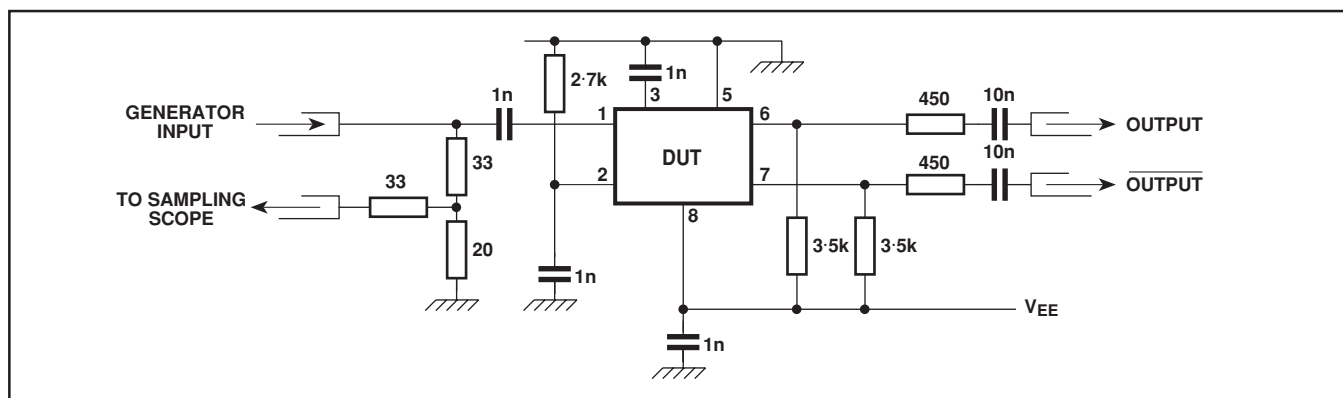


Fig. 5 Test circuit

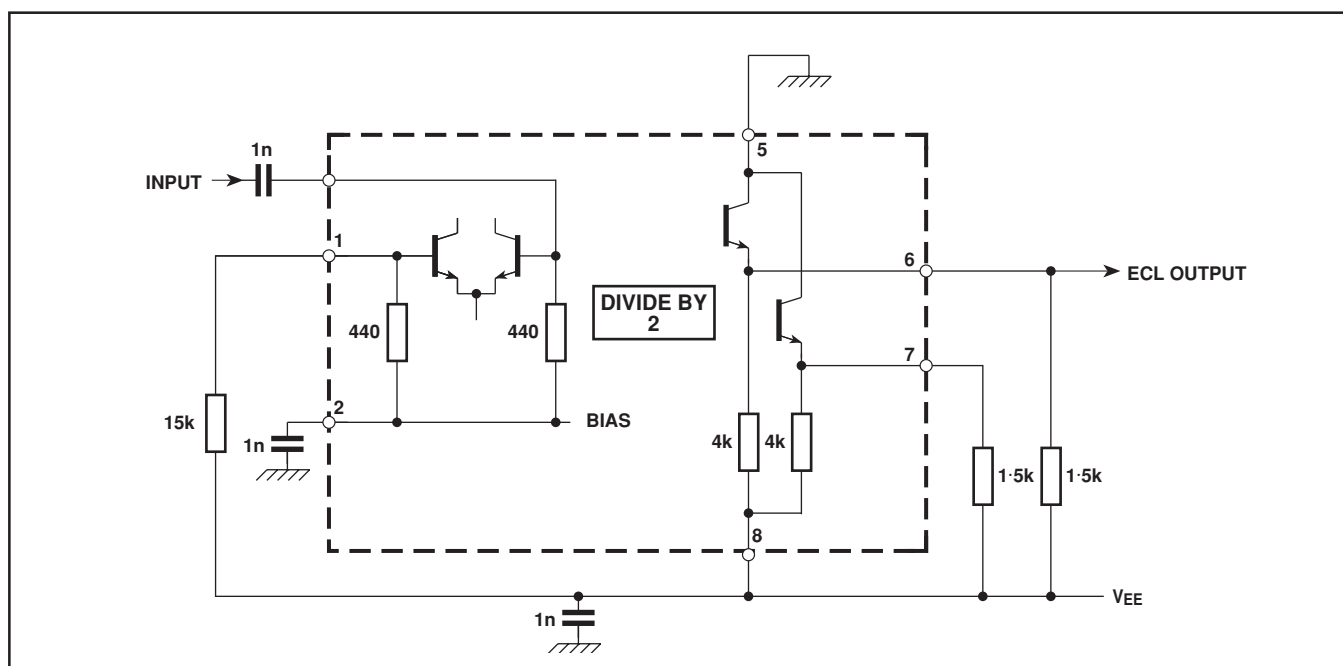
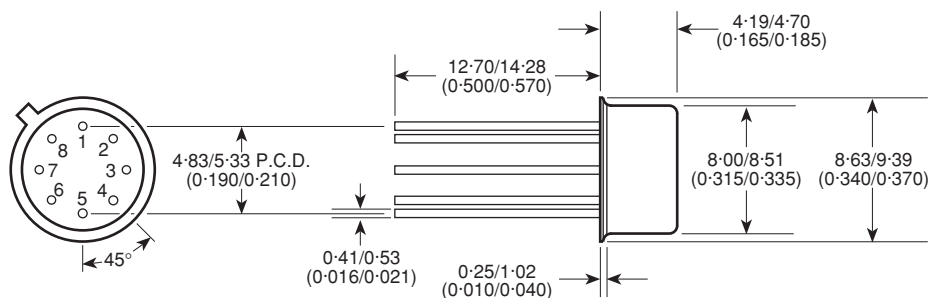


Fig. 6 Typical application showing interfacing

**PACKAGE DETAILS**

Dimensions are shown thus: mm (in).

**NOTES**

1. Controlling dimensions are inches.
2. This package outline diagram is for guidance only. Please contact your GPS Customer Service Centre for further information.

**8-LEAD METAL CAN - CM8****HEADQUARTERS OPERATIONS****GEC PLESSEY SEMICONDUCTORS**

Cheney Manor, Swindon,  
Wiltshire SN2 2QW, United Kingdom.  
Tel: (0793) 518000  
Fax: (0793) 518411

**GEC PLESSEY SEMICONDUCTORS**

P.O. Box 660017  
1500 Green Hills Road,  
Scotts Valley, CA95067-0017  
United States of America.  
Tel (408) 438 2900  
Fax: (408) 438 5576

**CUSTOMER SERVICE CENTRES**

- **FRANCE & BENELUX** Les Ulis Cedex Tel: (1) 64 46 23 45 Fax : (1) 64 46 06 07
- **GERMANY** Munich Tel: (089) 3609 06-0 Fax : (089) 3609 06-55
- **ITALY** Milan Tel: (02) 66040867 Fax: (02) 66040993
- **JAPAN** Tokyo Tel: (3) 5276-5501 Fax: (3) 5276-5510
- **NORTH AMERICA** Scotts Valley, USA Tel: (408) 438 2900 Fax: (408) 438 7023.
- **SOUTH EAST ASIA** Singapore Tel: (65) 3827708 Fax: (65) 3828872
- **SWEDEN** Stockholm Tel: 46 8 702 97 70 Fax: 46 8 640 47 36
- **UK, EIRE, DENMARK, FINLAND & NORWAY**  
Swindon Tel: (0793) 518510 Fax : (0793) 518582

These are supported by Agents and Distributors in major countries world-wide.

© GEC Plessey Semiconductors 1994 Publication No. DS3660 Issue No. 1.2 March 1994

This publication is issued to provide information only which (unless agreed by the Company 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. No warranty or guarantee express or implied is made regarding the capability, performance or suitability of any product or service. The Company reserves the right to alter without prior knowledge the specification, design or price 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. 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 the Company's conditions of sale, which are available on request.



**For more information about all Zarlink products  
visit our Web Site at  
[www.zarlink.com](http://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 I<sup>2</sup>C components conveys a licence under the Philips I<sup>2</sup>C Patent rights to use these components in an I<sup>2</sup>C System, provided that the system conforms to the I<sup>2</sup>C 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**

---

Copyright © Each Manufacturing Company.

All Datasheets cannot be modified without permission.

This datasheet has been download from :

[www.AllDataSheet.com](http://www.AllDataSheet.com)

100% Free DataSheet Search Site.

Free Download.

No Register.

Fast Search System.

[www.AllDataSheet.com](http://www.AllDataSheet.com)