

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



# SP8755

## 1200MHz ÷ 64

The SP8755 is a divide by 64 prescaler which operates from a standard 5V TTL supply and will drive TTL directly. The SP8755A operates over the full military temperature range (−55°C to +125°C).

### FEATURES

- TTL Compatible Output
- AC Coupled Input (Internal Bias)

### QUICK REFERENCE DATA

- Supply Voltage: 5V
- Power Consumption: 270mW
- Temperature Range: −55°C to +125°C (A Grade)  
−30°C to +70°C (B Grade)

### ABSOLUTE MAXIMUM RATINGS

Supply voltage	8V
Output current	±30mA
Storage temperature range	−65°C to +150°C
Max. junction temperature	+175°C
Max. clock input voltage	2.5V p-p

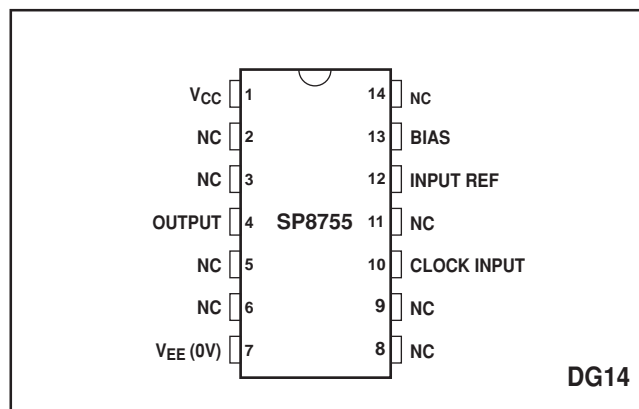


Fig. 1 Pin connections - top view

### ORDERING INFORMATION

SP8755 A DG  
SP8755 B BG  
SP8755 NA 1C  
5962-88684 (SMD)

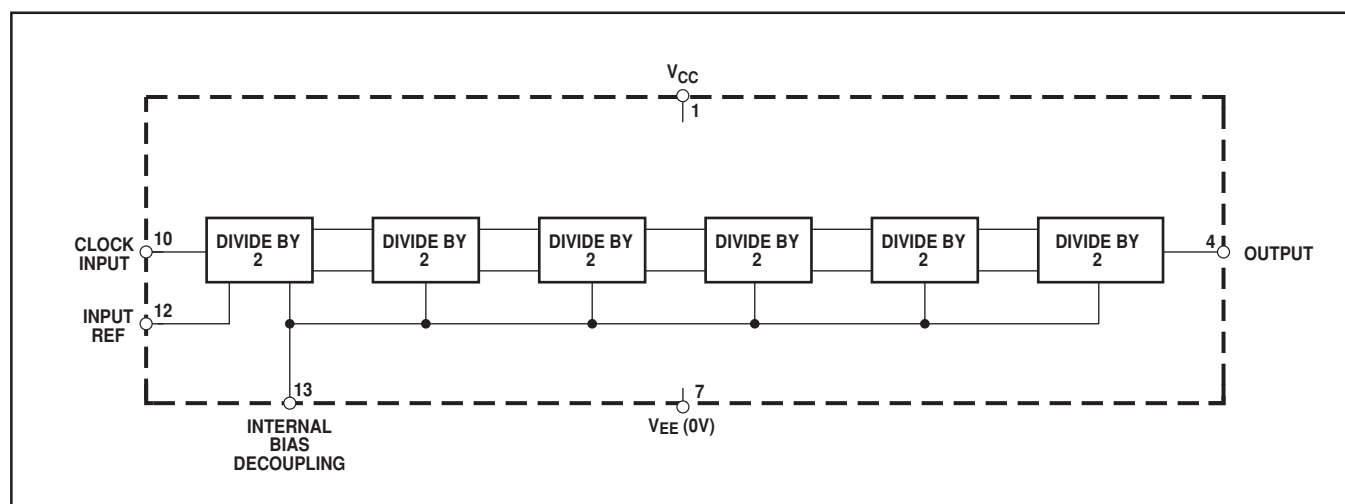


Fig. 2 Functional diagram

ELECTRICAL CHARACTERISTICS

Unless otherwise stated, the Electrical Characteristics are guaranteed over specified supply, frequency and temperature range  
Supply voltage,  $V_{CC} = 5.0V \pm 0.25V$ ,  $V_{EE} = 0V$   
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	Grade	Conditions
		Min.	Max.			
Maximum frequency (sinewave input)	$f_{MAX}$	1.2		GHz	SP8755A	Input = 600-1200mV p-p
	$f_{MAX}$	1.2		GHz	SP8755B	Input = 400-1200mV p-p
Minimum frequency (sinewave input)	$f_{MIN}$		100	MHz	Both	Input = 600-1200mV p-p
Power supply current	$I_{CC}$		75	mA	Both	
Output high voltage	$V_{OH}$	2.5		V	Both	
Output low voltage	$V_{OL}$		0.45	V	Both	Sink current = 5mA

NOTES

- 1. The test configuration for dynamic testing is shown in Fig.5.
- 2. Above characteristics are not tested at 25°C only (tested at low and high temperatures only).

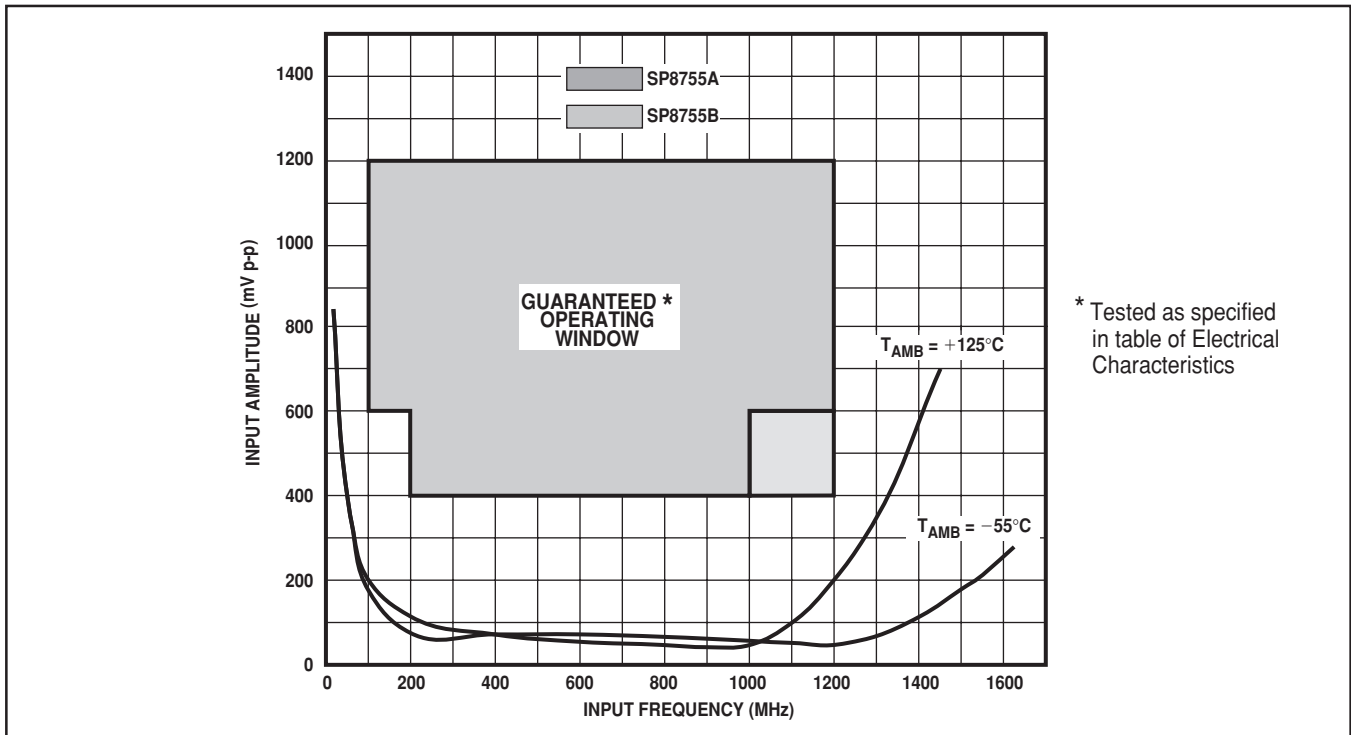


Fig. 3 Typical input characteristic of SP8755A/B

OPERATING NOTES

- 1. The clock input is biased internally and is connected to the signal source via a capacitor. The input signal path is completed by an input reference decoupling capacitor which is connected to ground.
- 2. If no signal is present the device will self-oscillate. If this is undesirable it may be prevented by connecting an 18kΩ

- resistor between the input and  $V_{EE}$  (i.e. from pin 10 to pin 7). This will reduce sensitivity by approximately 100mV.
- 3. The device will operate down to DC but input slew rate must be better than 100V/μs.
- 4. The output is a standard totem pole TTL and can therefore be interfaced directly to TTL.

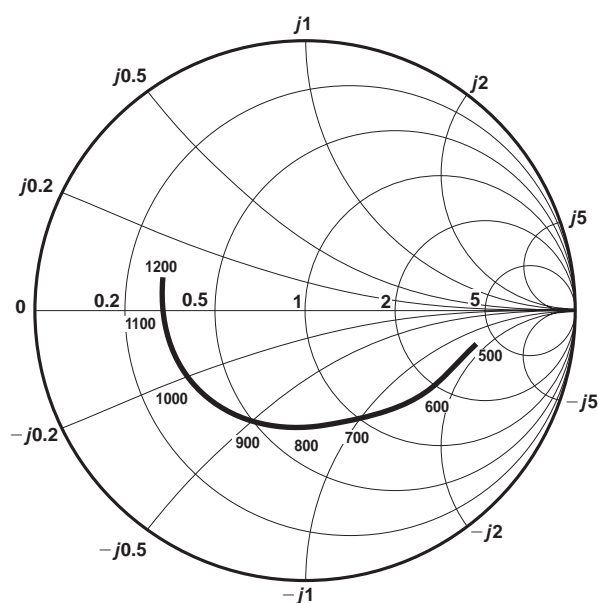


Fig. 4 Typical input impedance. Test conditions: supply voltage = 5.2V, ambient temperature = 25°C, frequencies in MHz, Impedances normalised to 50Ω

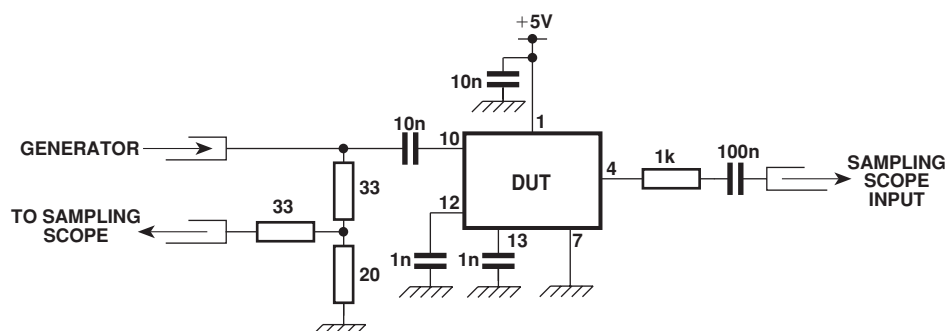


Fig. 5 Test circuit

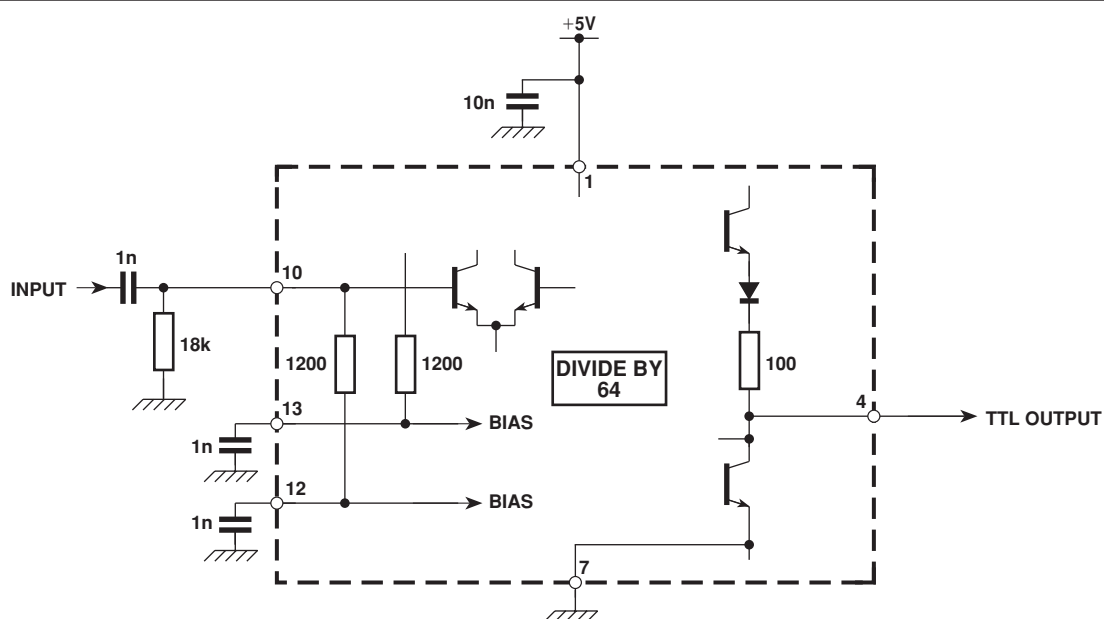
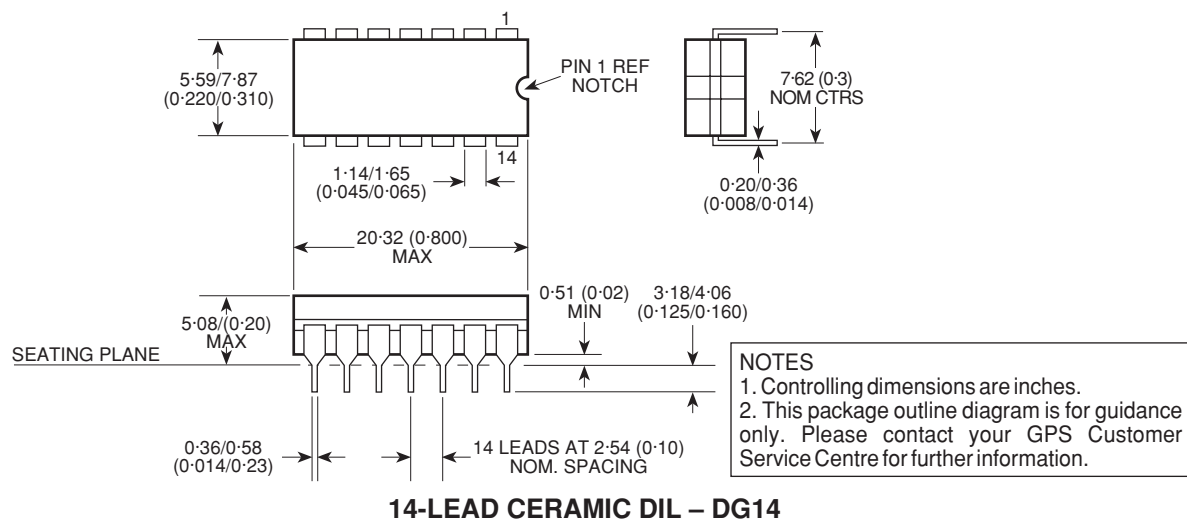


Fig. 6. Typical application circuit showing interfacing

## PACKAGE DETAILS

Dimensions are shown thus: mm (in).



**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. DS3674 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.