

T-45-19-09

# SP8755A&B

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:
  - A Grade: -55°C to +125°C
  - B Grade: -30°C to +70°C

### ABSOLUTE MAXIMUM RATINGS

Supply voltage	8V
Output current	±30mA
Storage temperature range	-55°C to +150°C
Max. junction temperature	+175°C
Max. clock I/P voltage	2.5V p-p

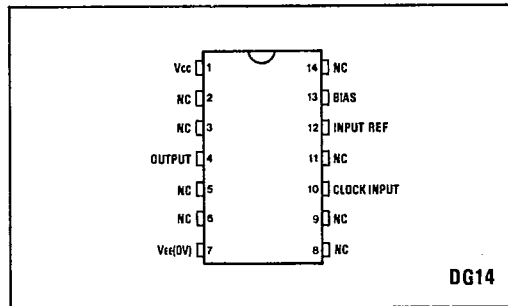


Fig.1 Pin connections - top view

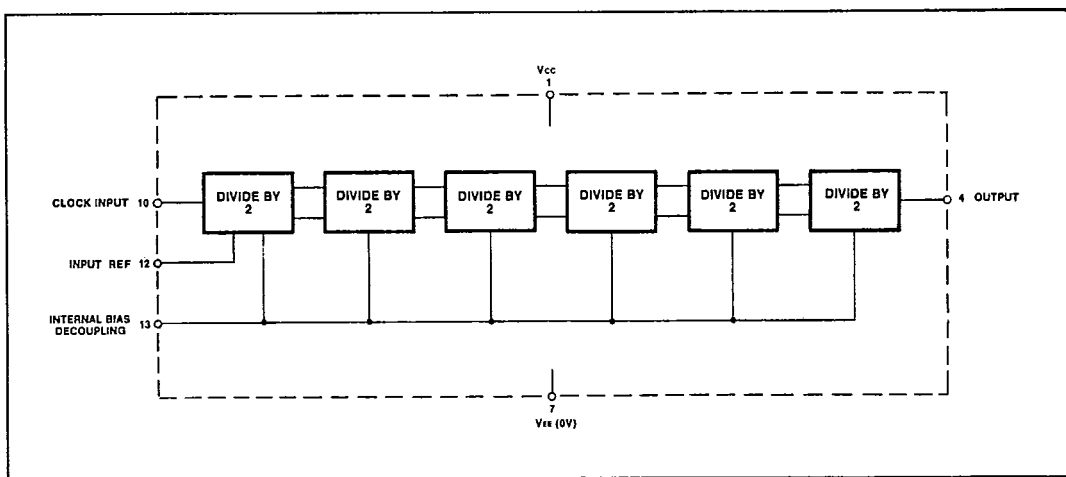


Fig.2 Functional diagram

## ELECTRICAL CHARACTERISTICS

Supply Voltage:  $V_{CC} = 5.0 \pm 0.25V$   $V_{EE} = 0V$   
 Temperature: A grade  $T_{amb} = -55^{\circ}C$  to  $+125^{\circ}C$   
 B grade  $T_{amb} = -30^{\circ}C$  to  $+70^{\circ}C$

Characteristics	Symbol	Value		Units	Grade	Conditions
		Min.	Max.			
Maximum frequency sinewave input	$f_{max}$	1.2		GHz	SP8755A	Input = 600-1200mV p-p
		1.2		GHz	SP8755B	
Minimum frequency sinewave input	$f_{min}$	-	100	MHz	Both	Input = 400-1200mV p-p
Power supply current	$I_{EE}$		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

- Unless otherwise stated, the electrical characteristics shown above are guaranteed over specified supply, frequency and temperature range.
- The test configuration for dynamic testing is shown in Fig.5.
- Above characteristics are not tested at  $25^{\circ}C$  (tested at low and high temperature only).

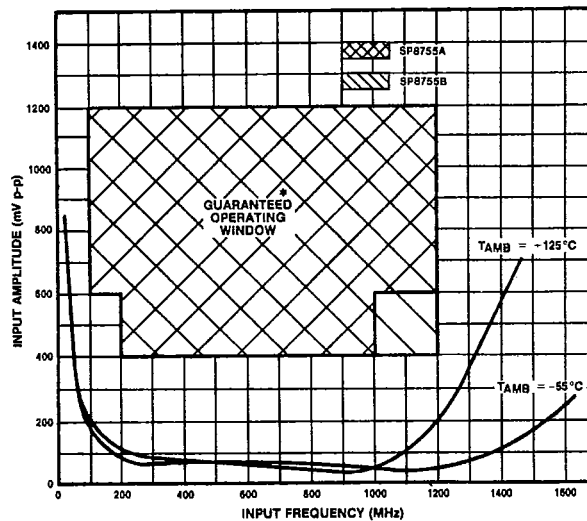


Fig.3 Typical input characteristics SP8755A/B

\* Tested as specified in table of Electrical Characteristics

### OPERATING NOTES

- 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 earth.
- If no signal is present the device will self-oscillate. If this is undesirable it may be prevented by connecting an 18k

resistor between input and  $V_{EE}$  (i.e. Pin 10 to Pin 7). This will reduce sensitivity by approximately 100mV.

- The device will operate down to DC but input slew rate must be better than  $100V/\mu s$ .
- The output stage is a standard totem pole TTL and can therefore be interfaced directly to TTL.

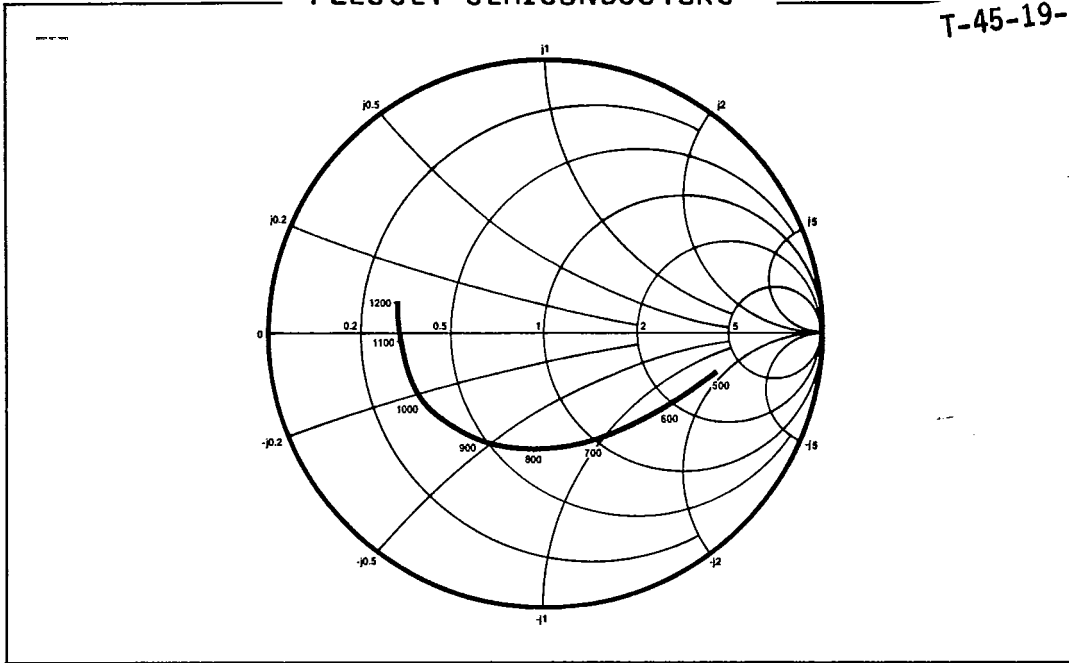


Fig.4 Typical input impedance. Test conditions: supply voltage 5V, ambient temperature 25°C. Frequencies in MHz, impedances normalised to 50 ohms.

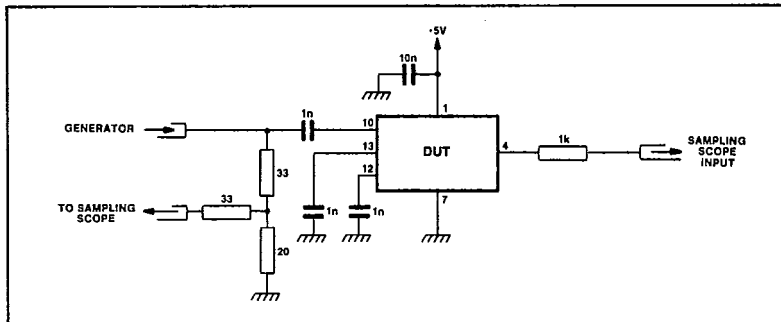


Fig.5 Test circuit

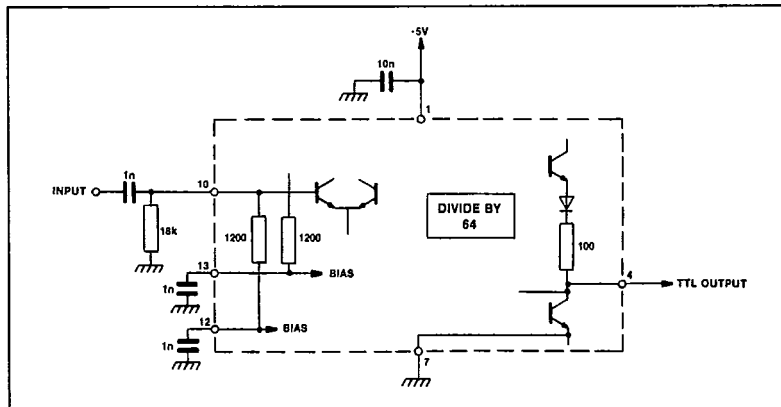


Fig.6 Typical applications circuit showing interfacing