

TOSHIBA BIPOLAR DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

## TD6116P, TD6118P, TD6120P TD6122P, TD6124P, TD6126P

### 1.2GHz PRESCALER

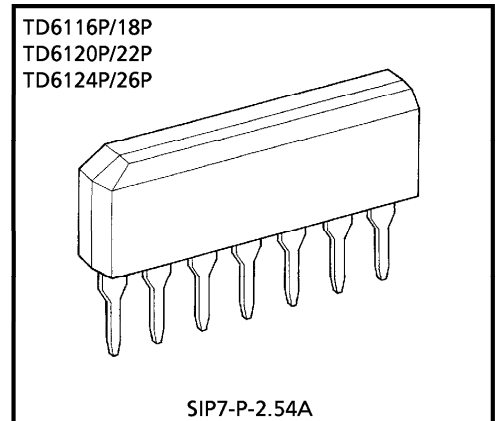
The TD6116P~6126P prescalers integrate a high-sensitivity prescaler of the max. input frequency, 1.2GHz into the following:

- Dividing ratio : 1/64, 1/128, 1/256
- Output level : TTL, ECL
- Package : SIP7 pin

An optimum prescaler therefore is possible according to use.

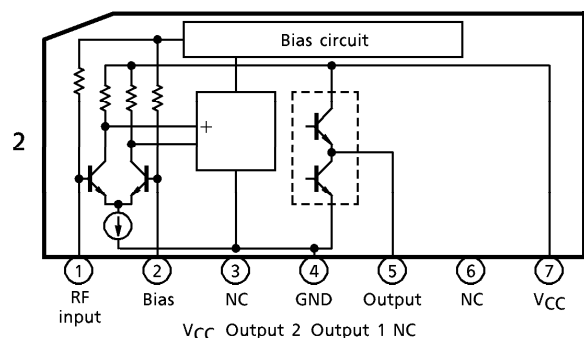
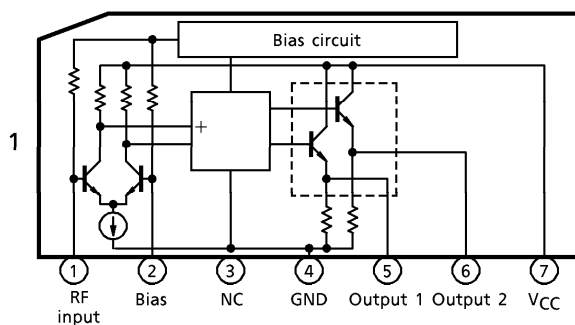
#### FEATURES

- High input sensitivity :
  - 20dBmW (50Ω) (Min.) 0.1~0.2GHz
  - 27dBmW (50Ω) (Min.) 0.2~1GHz
  - 17dBmW (50Ω) (Min.) 1~1.2GHz
- Low power consumption :
  - $I_{CC} = 28\text{mA}$  (Typ.),  $V_{CC} = 5\text{V}$ , ECL
  - $30\text{mA}$  (Typ.),  $V_{CC} = 5\text{V}$ , TTL



Weight : 0.72g (Typ.)

#### BLOCK DIAGRAM



000707EBA2

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## 1.2GHz PRESCALER

MAX. FREQUENCY	INPUT SENSITIVITY	TYPE NAME	FUNCTION	OUTPUT	BLOCK DIAGRAM
1.2GHz	0.1 – 0.2GHz – 20dBmW (50Ω)	TD6116P	1 / 64	TTL	2
		TD6118P	1 / 64	ECL	1
	0.2 – 1GHz – 27dBmW (50Ω)	TD6120P	1 / 128	TTL	2
		TD6122P	1 / 128	ECL	1
	1 – 1.2GHz – 17dBmW (50Ω)	TD6124P	1 / 256	TTL	2
		TD6126P	1 / 256	ECL	1

## MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>CC</sub>	6.5	V
Input Pin Voltage	V <sub>in</sub>	2.0	V <sub>p-p</sub>
Power Dissipation	P <sub>D</sub> (Note)	625	mW
Operating Temperature	T <sub>opr</sub>	– 20~75	°C
Storing Temperature	T <sub>stg</sub>	– 55~150	°C

(Note) In case of using at above 25°C, decrease 5mW per 1°C.

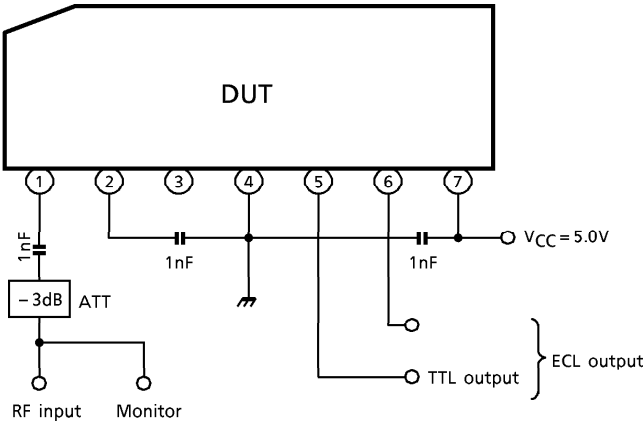
## RECOMMENDED SUPPLY VOLTAGE

PIN No.	PIN NAME	MIN.	TYP.	MAX.	UNIT
7	V <sub>CC</sub>	4.5	5.0	5.5	V

ELECTRICAL CHARACTERISTICS (Ta = 25°C, VCC = 5.0V)

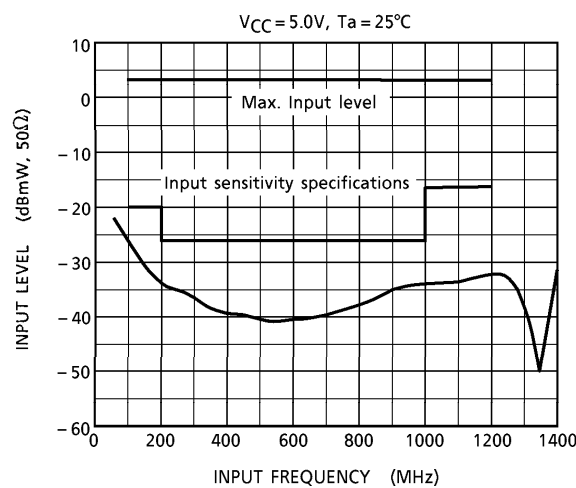
CHARACTERISTIC			SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current		ECL Type	I <sub>CC</sub>	1	V <sub>CC</sub> = 5V	18	28	38	mA
		TTL Type				18	30	40	
Input Sensitivity			V <sub>in1</sub>	1	f <sub>in1</sub> = 0.1~0.2GHz	- 20	—	3	dBmW (50Ω)
			V <sub>in2</sub>		f <sub>in2</sub> = 0.2~1GHz	- 27	—	3	
			V <sub>in3</sub>		f <sub>in3</sub> = 1~1.2GHz	- 17	—	3	
Output Level	ECL Type	Output	V <sub>O</sub>	1	—	—	1.0	—	
		High Level	V <sub>OH</sub>		—	—	4.3	—	V
		Low Level	V <sub>OL</sub>		—	—	3.3	—	V
	TTL Type	Output	V <sub>O</sub>	1	—	—	2.0	—	
		High Level	V <sub>OH</sub>		—	2.2	3.0	—	V
		Low Level	V <sub>OL</sub>		Output current = - 5mA	—	—	0.5	V

TEST CIRCUIT 1  
DC, AC characteristics



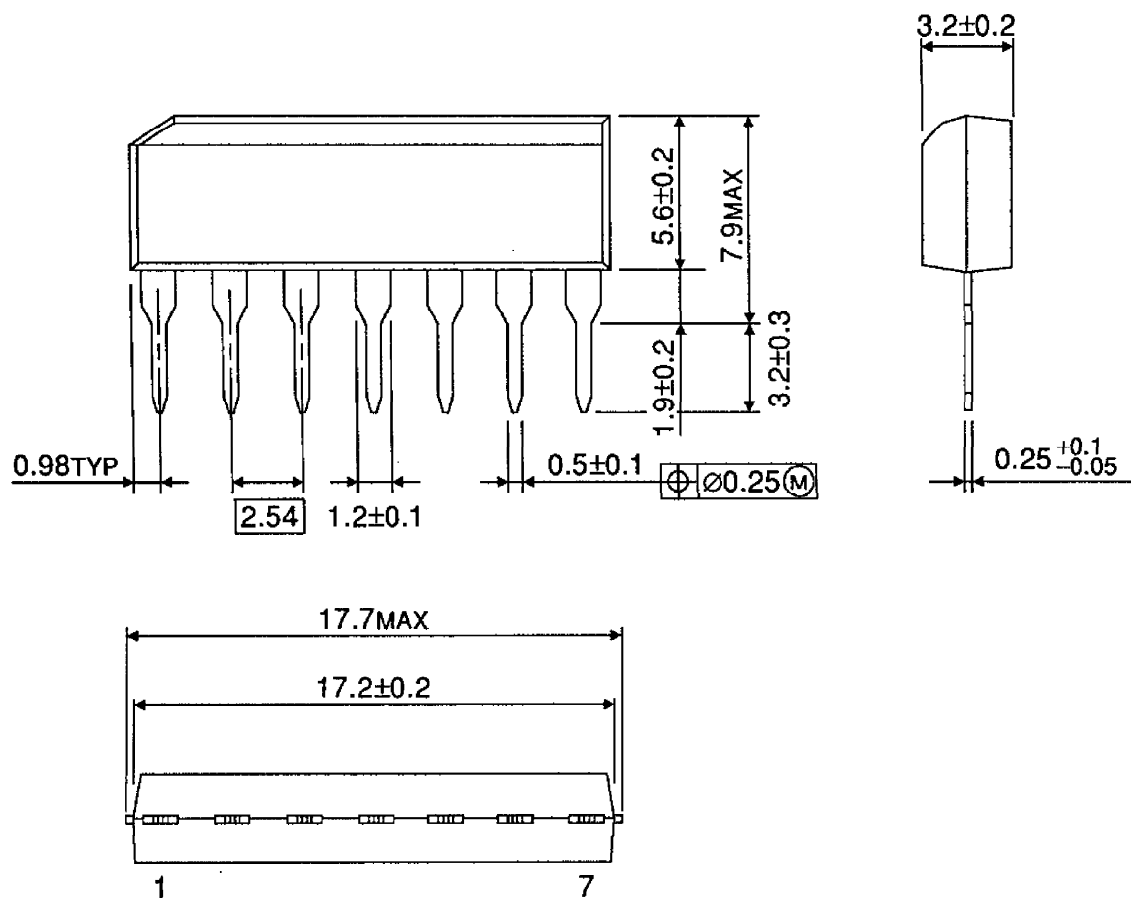
(Note) Handle with care as this product is weak at surge voltage.

INPUT SENSITIVITY characteristics



PACKAGE DIMENSIONS  
SIP7-P-2.54A

Unit : mm



Weight : 0.72g (Typ.)