

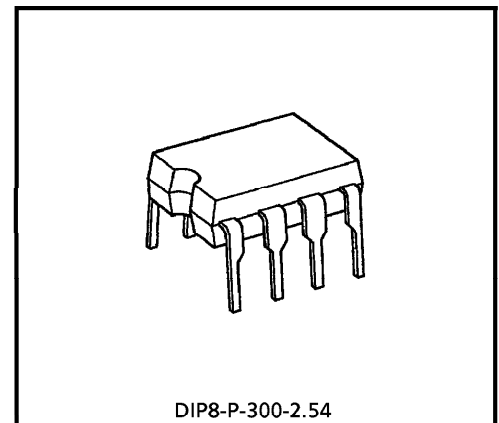
# TD6127BP

## ECL PRESCALLER FOR COMMUNICATIONS RADIO

TD6127BP is a 2 modulus prescaler developed for communications radio of PLL frequency synthesizer type. This is suitable for mobile radio telephone and personal communications radio etc.

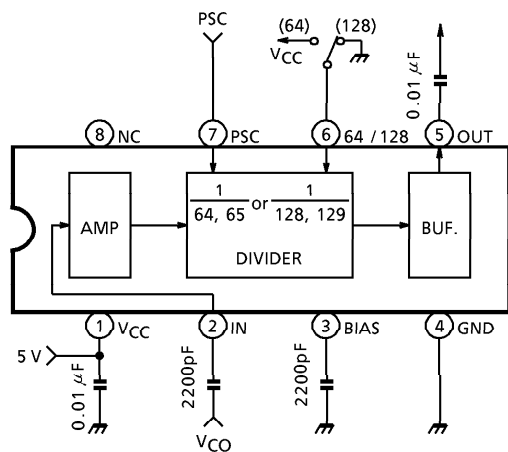
### FEATURES

- Maximum operating frequency is 1 GHz.
- 2 modulus prescaler :  $N = 64/65$  or  $N = 128/129$
- Input voltage sensitivity is  $50 \text{ mV}_{\text{rms}}$ .
- The package is DIP 8 pins.

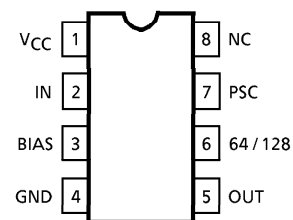


Weight : 0.5 g (Typ.)

### BLOCK DIAGRAM



### PIN CONNECTION (TOP VIEW)



## PIN FUNCTION

PIN No.	SYMBOL	FUNCTION	REMARKS
1	V <sub>CC</sub>	Power supply terminal	—
2	IN	Input terminal of local oscillator	—
3	BIAS	Bias capacitance terminal	—
4	GND	Earth terminal	—
5	OUT	Output terminal	—
6	64 / 128	Dividing mode selection terminal "H" level : 64, 65 "L" level : 128, 129	—
7	PSC	2 modulus control terminal "H" level : N "L" level : N + 1	—
8	NC	Not connected	—

MAXIMUM RATINGS (Ta = 25°C)

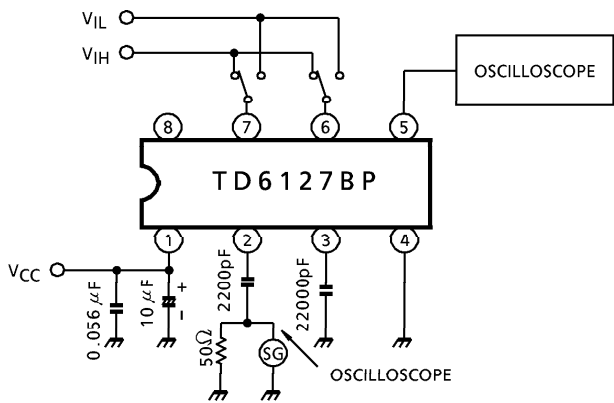
CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V <sub>CC</sub>	6.5	V
Power Dissipation	P <sub>D</sub>	450	mW
Input Voltage	V <sub>in</sub>	- 0.3~V <sub>CC</sub> + 0.3	V
Operating Temperature	T <sub>opr</sub>	- 30~85	°C
Storage Temperature	T <sub>stg</sub>	- 55~150	°C

ELECTRICAL CHARACTERISTICS

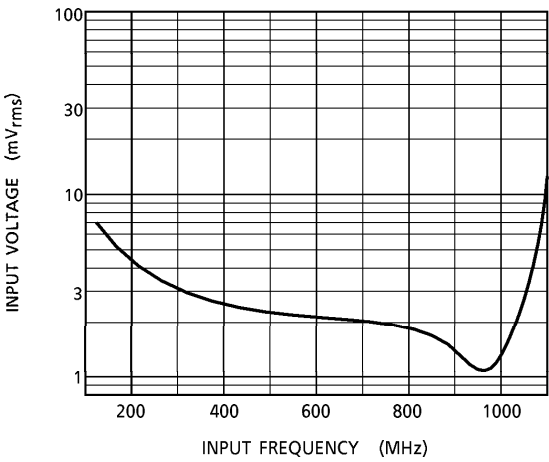
(Unless otherwise specified, V<sub>CC</sub> = 4.5 ~ 5.5 V, Ta = - 30~85°C, f<sub>IN</sub> = 400~1000 MHz)

CHARACTERISTIC		SYMBOL	TEST CIR- CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage		V <sub>CC</sub>	—	—	4.5	5.0	5.5	V
Supply Current		I <sub>CC</sub>	—	V <sub>CC</sub> = 5.0 V	—	40	70	mA
Operating Frequency Range		f <sub>IN</sub>	—	—	400	—	1000	MHz
Input Voltage Range		V <sub>IN</sub>	—	—	50	—	250	mV <sub>rms</sub>
Output Amplitude		V <sub>OUT</sub>	—	—	1.0	1.2	—	V <sub>p-p</sub>
Input Voltage	"L" Level	V <sub>IL</sub>	—	PSC	0	—	V <sub>CC</sub> × 0.3	V
	"H" Level	V <sub>IH</sub>	—	PSC	V <sub>CC</sub> × 0.3	—	V <sub>CC</sub>	V
		I <sub>IL</sub>	—	PSC V <sub>CC</sub> = 5.0 V, V <sub>IL</sub> = 1.0 V	- 700	—	- 200	μA
		I <sub>IH</sub>	—	PSC V <sub>CC</sub> = 5.0 V, V <sub>IH</sub> = 4.0 V	- 200	—	- 50	μA

TEST CIRCUIT (Input voltage sensitivity)



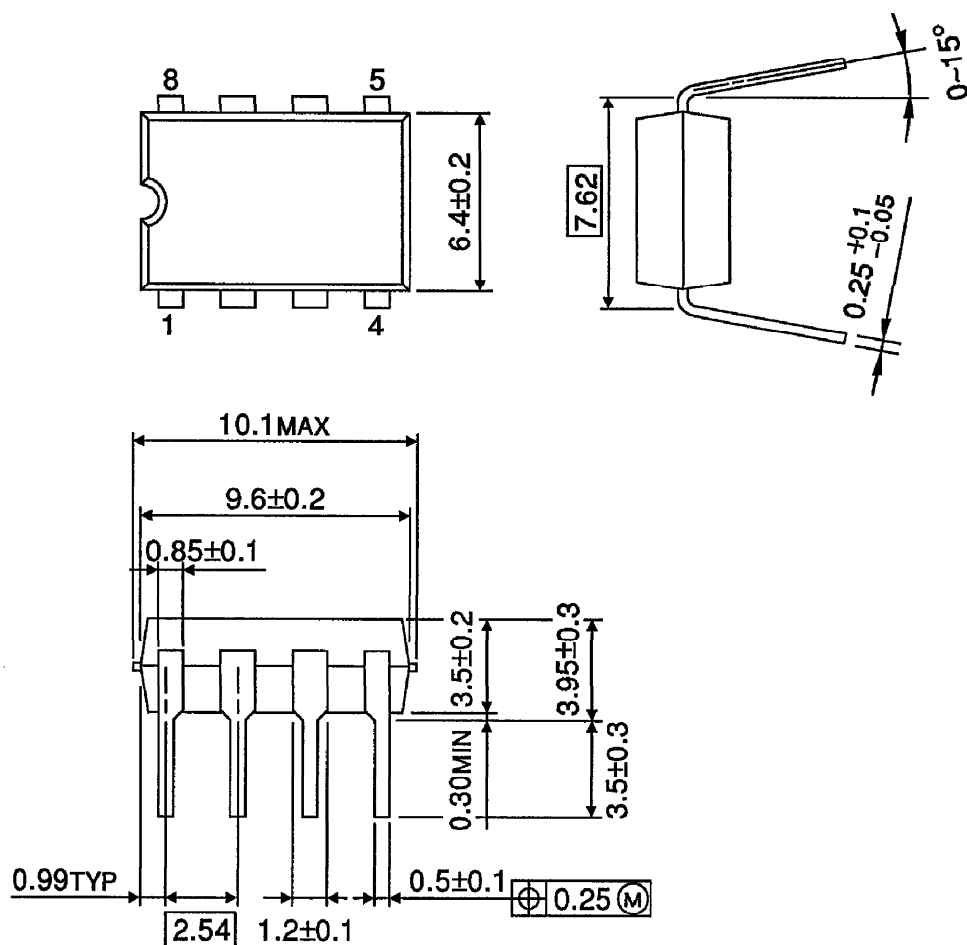
INPUT VOLTAGE SENSITIVITY  
( $V_{CC} = 5.0\text{ V}$ ,  $T_a = 25^\circ\text{C}$ )



## PACKAGE DIMENSIONS

DIP8-P-300-2.54

Unit : mm



Weight : 0.5 g (Typ.)

**RESTRICTIONS ON PRODUCT USE**

000707EBA

- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.
- The products described in this document are subject to the foreign exchange and foreign trade laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.