

TD6104P

T-77-05-05

ECL PRESCALLER FOR FM

TD6104P is an FM prescaler for digital tuning system for which a swallow counter has been adopted.

- Frequency division ratio is made by a swallow counter method of 1/30 and 1/32.
- Realizes operation at low voltage and low current.

$$V_{CC} = 4 \sim 6V$$

$$I_{CC} = 3mA \text{ (TYP)}$$

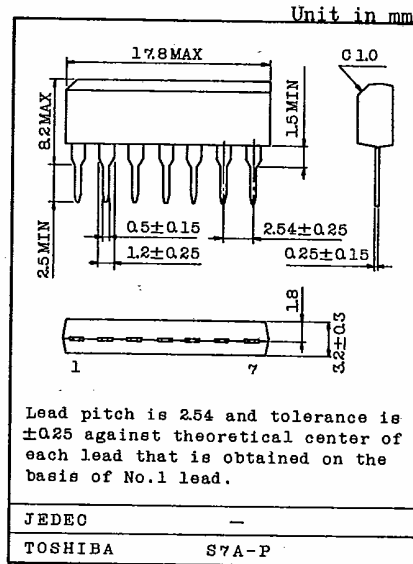
- High input sensitivity permits operation at low level input.

$$V_{in} = 75mV_{rms} \text{ (MIN)}$$

$$f_{in} = 60 \sim 140MHz$$

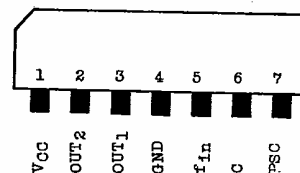
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	8	V
Power Dissipation	P _D	200	mW
Operating Temperature	T _{opr}	- 10 ~ 75	°C
Storage Temperature	T _{stg}	- 55 ~ 150	°C



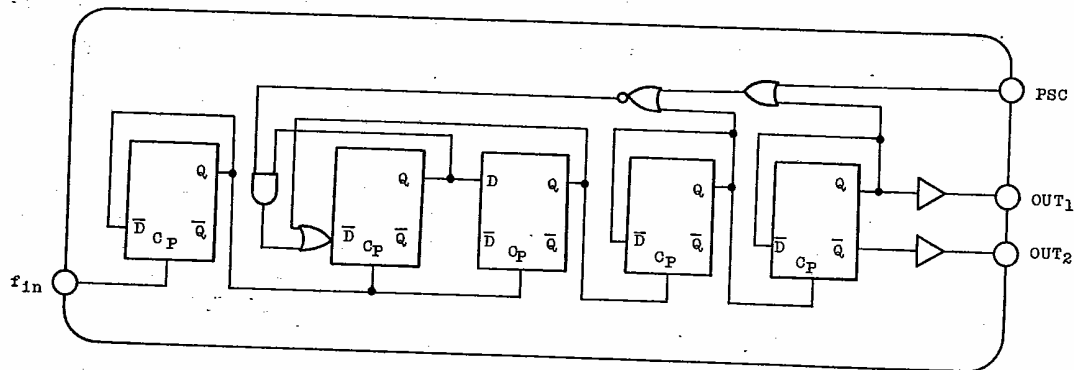
Lead pitch is 2.54 and tolerance is ± 0.25 against theoretical center of each lead that is obtained on the basis of No.1 lead.

PIN CONNECTION



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LOGIC DIAGRAM



FUNCTIONAL EXPLANATION OF TERMINALS

PIN NO.	SYMBOL	FUNCTION	REMARKS
5	f_{in}	Input of FM local oscillator signal. Frequency Range: 60 ~ 140 MHz Input Level : 75 ~ 300 mVrms	
3	OUT-1	Output dividing input signal from frequency division output f_{in} into 1/30 or 1/32. Output Level : 0.5V _{P-P} (MIN)	
2	OUT-2	Inverted signal output. External resistance is required when this pin is used; because it is an open-emitter type. Usually it is open.	
7	PSC	Frequency-division ratio switching control terminal. 1/32 at V _{PSC} ≥ 2(V) 1/30 at V _{PSC} ≤ 1(V)	
6	C	External pin for condenser of bias circuit Connection of approx. C=2200pF between Pin and GND.	
1	VCC	Power Supply	
4	GND		VCC=5V I _{CC} =3mA (TYP), 8mA (Max).

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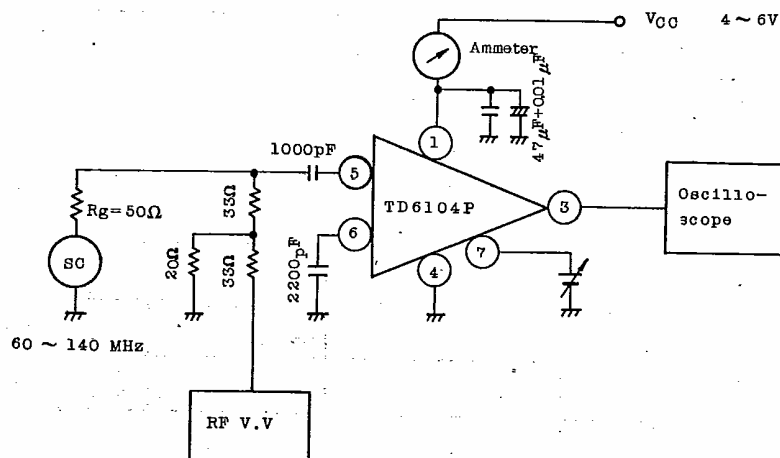
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ELECTRICAL CHARACTERISTICS (Unless otherwise specified, $V_{CC}=5.0V$, $T_a=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITIONS	MIN	TYP.	MAX.	UNIT
Operating Supply Voltage	V_{CC}	-	* -	4	5	6	V
Operating Supply Current	I_{CC}	-	-	-	3	8	mA
Operating Frequency Range	f_{in}	-	* $V_{in}=75\text{ mVrms}$	60	-	140	MHz
Input Voltage Range	V_{in}	-	* -	75	-	300	mVrms
Output Amplitude	V_{OUT}	-	* -	0.5	0.7	-	V_{PP}
PSC Low Level Input Voltage	V_{IL}	-	-	0	-	1.0	V
PSC High Level Input Voltage	V_{IH}	-	-	2.0	-	5.0	V
Input Resistance	R_{in}	-	-	-	1	-	$k\Omega$
Input Capacity	C_{in}	-	-	-	2.5	-	pF

Asterisk (*) denotes assurance under all the conditions of $V_{CC}=4 \sim 6V$, $T_a=25^\circ C$, and $f_{in}=60 \sim 140\text{ MHz}$.

TEST CIRCUIT



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