

TD6104P

T-77-05-05

ECL PRESCALER 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.

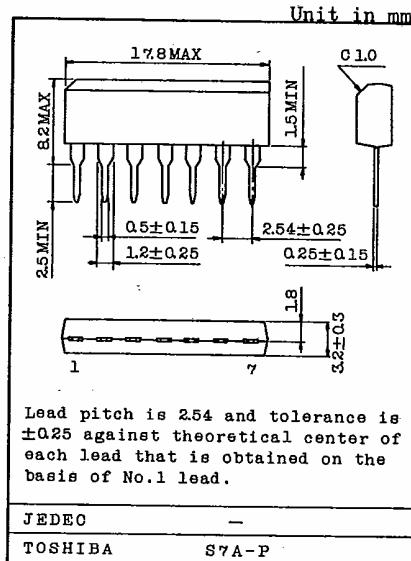
$V_{CC} = 4 \sim 6V$

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

- High input sensitivity permits operation at low level input.

$V_{in} = 75mVrms$ (MIN)

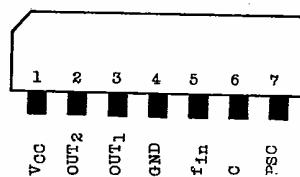
$f_{in} = 60 \sim 140MHz$



MAXIMUM RATINGS ($T_a = 25^\circ C$)

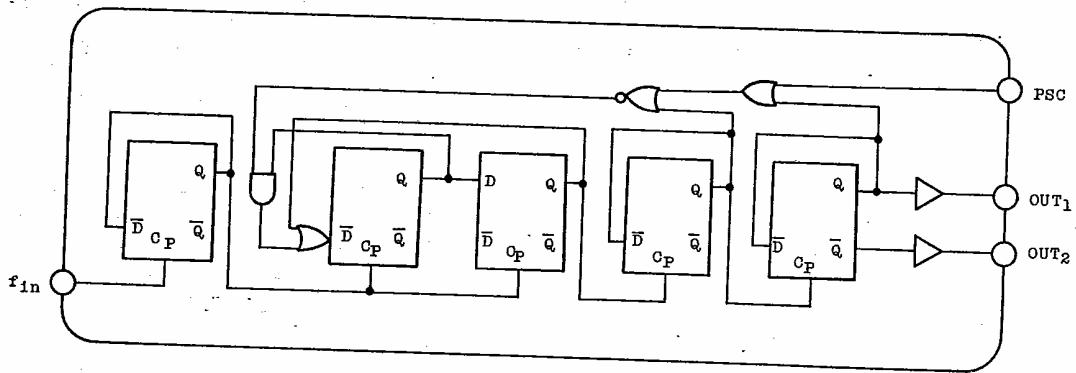
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	8	V
Power Dissipation	P_D	200	mW
Operating Temperature	T_{opr}	- 10 ~ 75	°C
Storage Temperature	T_{stg}	- 55 ~ 150	°C

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 : 0.5 V _{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 $V_{PSC} \geq 2(V)$ 1/30 at $V_{PSC} \leq 1(V)$	
6	C	External pin for condenser of bias circuit Connection of approx. C=2200pF between Pin and GND.	
1	V _{CC}	Power Supply $V_{CC}=5V$	
4	GND	$I_{CC}=3mA$ (TYP), 8mA (Max).	

TOSHIBA

TD6104P

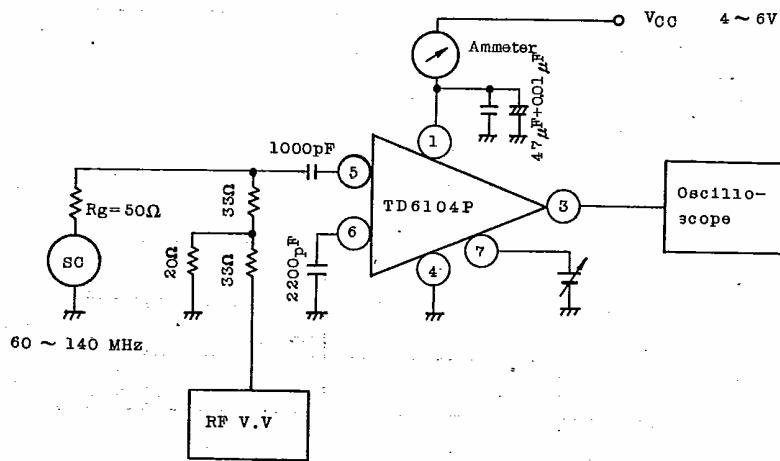
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ELECTRICAL CHARACTERISTICS (Unless otherwise specified, $V_{CC}=5.0V$, $T_a=25^{\circ}C$)

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 Ω
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 $f_{in}=60 \sim 140 \text{ MHz}$.

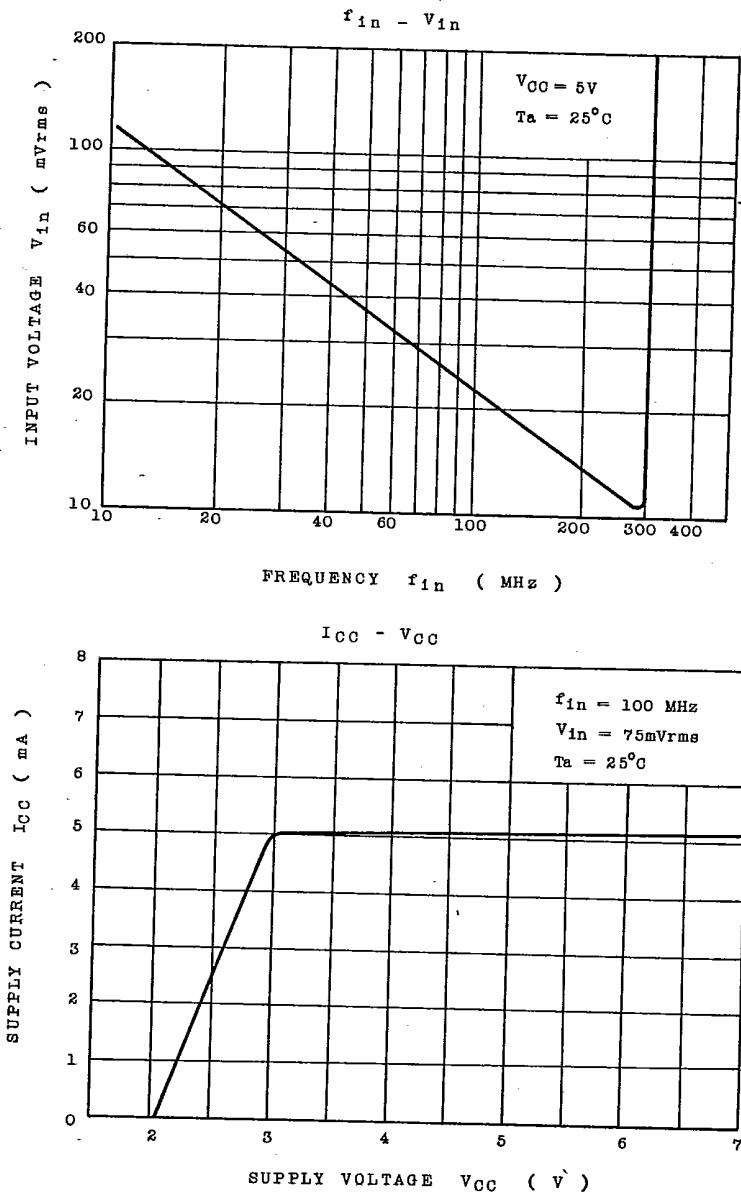
TEST CIRCUIT



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