

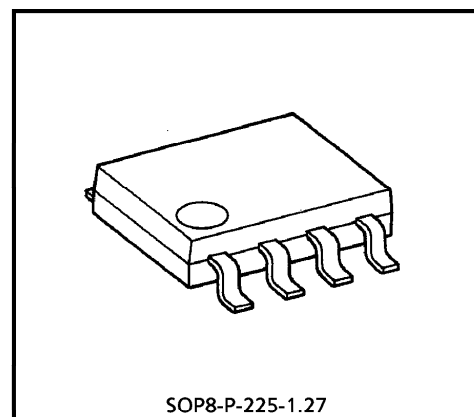
TD7101F

ELC PRESCALER FOR DIGITAL SYNTHESIZED TUNER

TD7101F is a 2 modulus prescaler developed for low operating voltage digital synthesized tuner, and can operate up to 150 MHz.

FEATURES

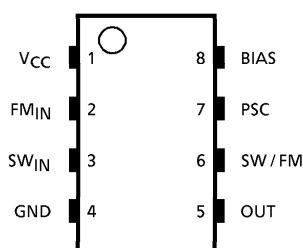
- Operating frequency range is 1.5~35 MHz / 50~150 MHz.
- 2 modulus prescaler : $N = 4 \times 15 / 16$ and $N = 15 / 16$
- Input voltage sensitivity is $V_{IN} (FM) = 35 \text{ mV}_{rms}$, $V_{IN} (SW) = 40 \text{ mV}_{rms}$
- 3 V low operating supply voltage.
- The package is SOP-8 pins.



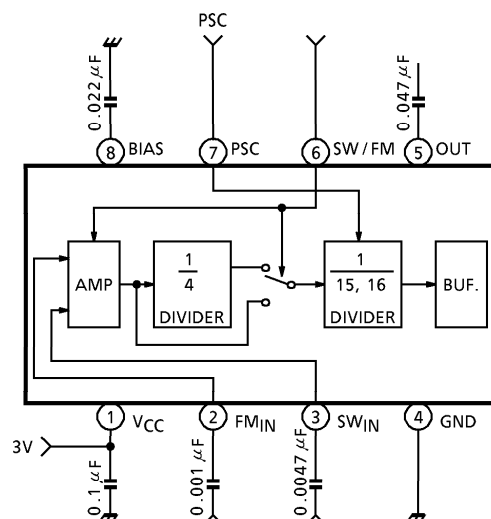
SOP8-P-225-1.27

Weight : 0.08 g (Typ.)

PIN CONNECTION



BLOCK DIAGRAM



(Note) This device is vulnerable to surge voltage.
Take it into account when using this device in your system.

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PIN FUNCTION

PIN No.	SYMBOL	FUNCTION	REMARKS
1	V _{CC}	Power supply terminal.	—
2	FM _{IN}	Signal input terminal from FM local oscillator.	—
3	SW _{IN}	Signal input terminal from SW local oscillator.	—
4	GND	Ground terminal.	—
5	OUT	Divider signal output terminal.	—
6	SW / FM	Dividing mode control terminal. "H" level input : SW _{IN} is selected, direct mode. "L" level input : FM _{IN} is selected, 1 / 4 mode.	—
7	PSC	2 modulus mode control terminal. "H" level input : 1 / 16 dividing "L" level input : 1 / 15 dividing	—
8	BIAS	Bias capacitor terminal. Bias capacitor is connected.	—

MAXIMUM RATINGS (Ta = 25°C)

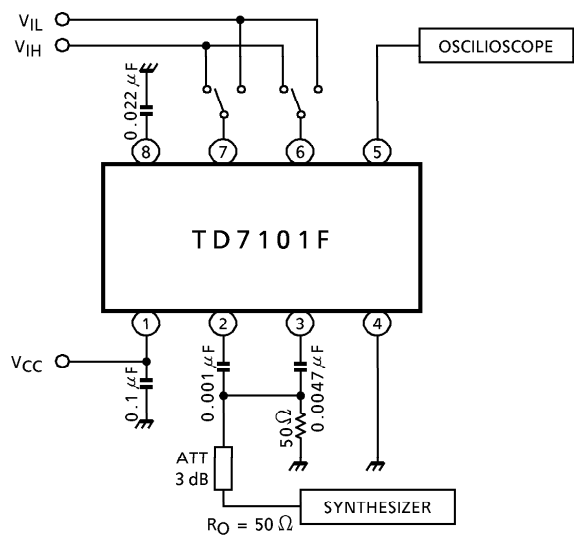
CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V _{CC}	6.5	V
Power Dissipation	P _D	200	mW
Input Voltage	V _{IN}	- 0.3~V _{CC} + 0.3	V
Operating Temperature	T _{opr}	- 10~60	°C
Storage Temperature	T _{stg}	- 55~150	°C

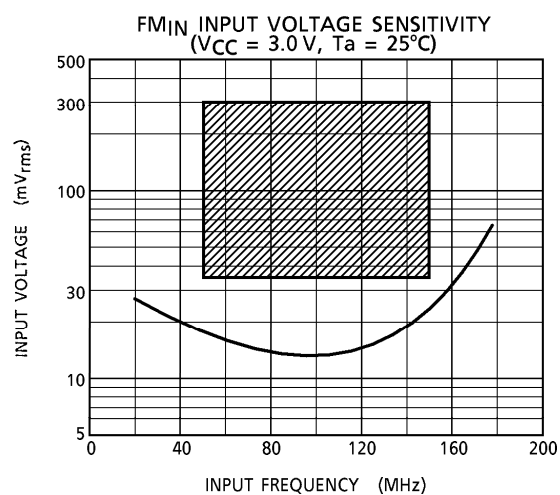
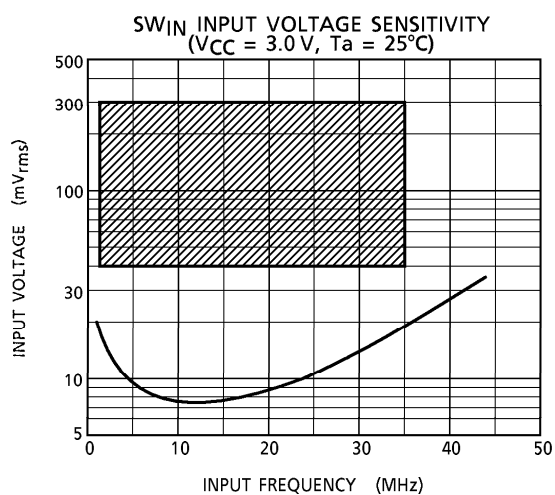
ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, $V_{CC} = 1.8 \sim 5.5 \text{ V}$, $T_a = -10 \sim 60^\circ\text{C}$, $f_{in}(\text{FM}) = 50 \sim 150 \text{ MHz}$, $f_{in}(\text{SW}) = 1.5 \sim 35 \text{ MHz}$)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V_{CC}	—	—	1.8	3.0	5.5	V
Supply Current	I_{CC}	—	$V_{CC} = 3.0 \text{ V}$	—	5.5	9.5	mA
Operating Frequency Range	$f_{IN\ 1}$	—	FM _{IN}	50	—	150	MHz
	$f_{IN\ 2}$	—	SW _{IN}	1.5	—	35	
Input Voltage Range	$V_{IN\ 1}$	—	FM _{IN}	35	—	300	mV _{rms}
	$V_{IN\ 2}$	—	SW _{IN}	40	—	300	
Output Amplitude	V_{OUT}	—	—	0.5	—	—	V _{p-p}
Input Voltage	"H" Level	V_{IH}	PSC, SW / FM	1.6	—	V_{CC}	V
	"L" Level	V_{IL}	PSC, SW / FM	0	—	1.0	
Input Current	"H" Level	I_{IH}	PSC, SW / FM, $V_{CC} = 5.0 \text{ V}$, $V_{IH} = 4.0 \text{ V}$	—	—	60	μA
	"L" Level	I_{IL}	PSC, SW / FM, $V_{CC} = 5.0 \text{ V}$, $V_{IL} = 1.0 \text{ V}$	—	—	10	

TEST CIRCUIT (Input voltage sensitivity)

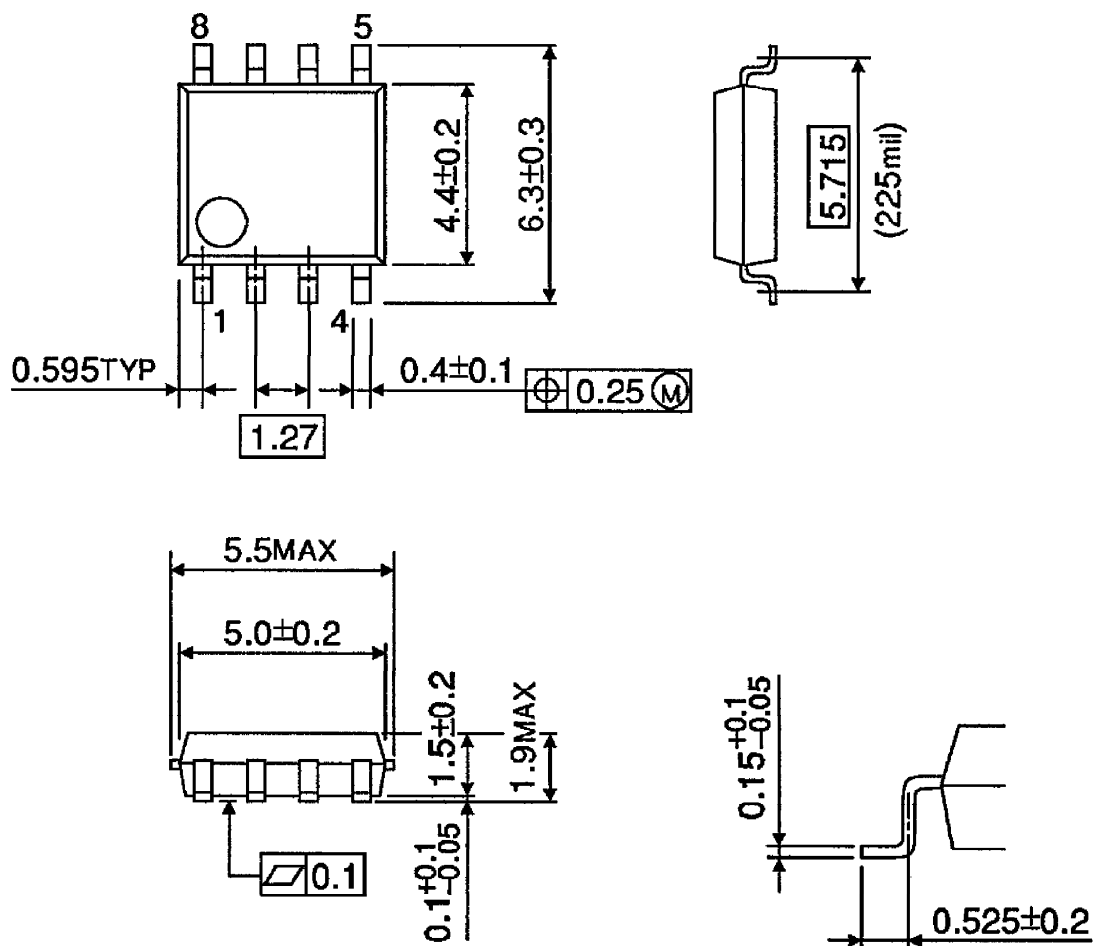




(Note)  Operating range (V_{CC} = 1.8~5.5 V, T_a = -10~60°C)

OUTLINE DRAWING
SOP8-P-225-1.27

Unit : mm



Weight : 0.08 g (Typ.)