DN8506S

Prescaler IC for TV and VCR tuners

■ Overview

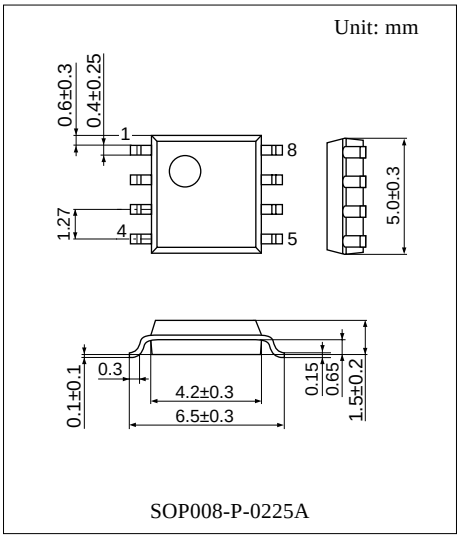
The DN8506S is a 1.1GHz prescaler IC for television and VCR tuners. It is made up of ECL flip-flop circuits divided by 128 and 136.

■ Features

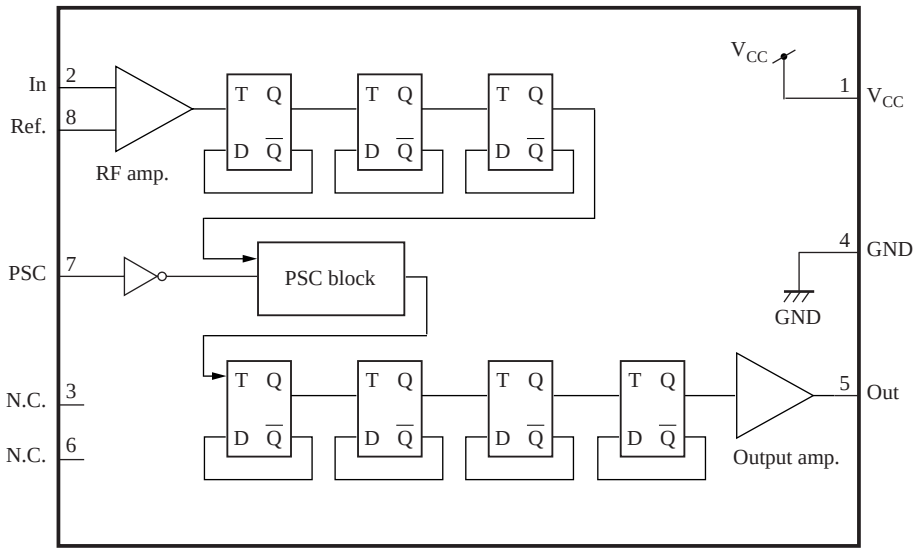
- Power dissipation: 5 V, 26 mA
- The dividing ratios of 1/128, 1/136
- ECL-level output

■ Applications

- Television, VCR



■ Block Diagram



■ Pin Descriptions

Pin No.	Description
1	V_{CC} (5 ± 0.5 V)
2	Input
3	N.C.
4	GND
5	Output
6	N.C.
7	PSC
8	Ref. (bias)

■ Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	6	V
Input voltage	V_I	2.5	V[p-p]
Power dissipation	P_D	361	mW
Operating ambient temperature *	T_{opr}	−20 to +80	°C
Storage temperature *	T_{stg}	−55 to +125	°C

Note) ∗: Except for the operating ambient temperature and storage temperature, all ratings are for T_a = 25°C.

■ Recommended Operating Range

Parameter	Symbol	Range	Unit
Supply voltage	V_{CC}	4.5 to 5.5	V

■ Electrical Characteristics at T_a = 25°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Supply current	I_{CC}	V_{CC} = 5.0 V	—	26	35	mA
Output amplitude	V_O	V_{CC} = 5.0 V, f = 1 GHz, 0 dBm	0.8	1.2	1.5	V[p-p]
Input voltage *	V_{IN1}	V_{CC} = 5.0 V,	−24	—	—	dBm
		f_{IN} = 150 MHz to 900 MHz	40	—	—	mV[p-p]
	V_{IN2}	V_{CC} = 5.0 V,	−18	—	—	dBm
		f_{IN} = 80 MHz to 1 100 MHz	80	—	—	mV[p-p]
High-level input voltage	V_{IH}	PSC pin	0.7 × V_{CC}	—	—	V
Low-level input voltage	V_{IL}	PSC pin	—	—	0.3 × V_{CC}	V

Note) ∗: The input level that allows a stipulated frequency-devided output.

■ Electrical Characteristics at T_a = 25°C (continued)

- Design reference data

Note) The characteristics listed below are theoretical values based on the IC design and are not guaranteed.

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Supply current	I_{CC}	V_{CC} = 5.5 V	—	—	42	mA
Input voltage *	V_{IN1}	V_{CC} = 5.0 ± 0.5 V f_{IN} = 150 MHz to 900 MHz	30	—	1 000	mV[p-p]
	V_{IN2}	V_{CC} = 5.0 ± 0.5 V f_{IN} = 70 MHz to 1 100 MHz	60	—	1 000	

Note) ∗: The input level that allows a stipulated frequency-devided output.