TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

TA8025P,TA8025F

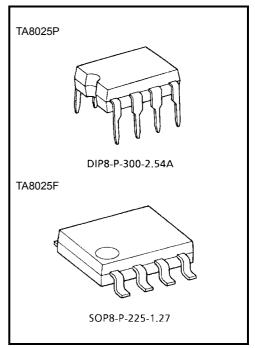
Pick Up Sensor Interface IC

The TA8025P TA8025F is an IC designed for making the output signal from electromagnetic pick up sensor and etc..., waveform-shaping. The Vth of input has hysteresis that is division value between peak voltage of input signal and 0V.

Features

• Input frequency : $DC\sim50kHz$ • Input voltage VTH : $0V \longleftrightarrow Vpeak\times K$ • Small package : DIP-8pin (TA8025P): SOP-8pin (TA8025F)

• Separate GND line for output and logic control sections

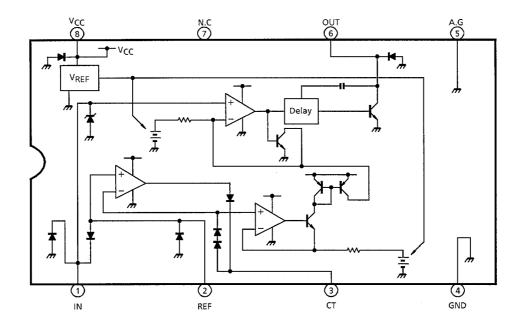


Weight

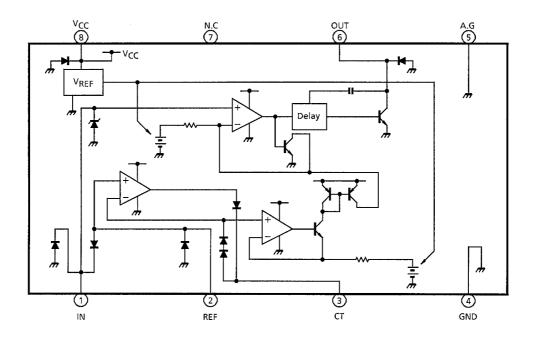
DIP8-P-300-2.54A : 0.45 g (typ.) SOP8-P-225-1.27 : 0.08 g (typ.)

Block Diagram and Pin Layout

TA8025P



T8025F



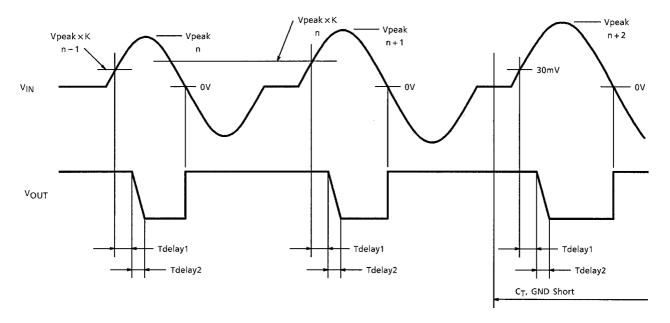
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Note: The TA8025P and TA8025F are the same chip; only the packages are different.

Pin Description

Pin No.	Symbol	Description				
1	IN	Input pin for a signal from sensor.				
2	REF	V_{TH} setting pin. The V_{TH} value can be set according to divide the input signal with resistors.				
3	СТ	This pin hold the peak value for input signal of REF pin.				
4	GND	Grounded.				
5	A.G	Grounded pin for REF.				
6	OUT	The output is an NPN open-collector output and the input signal which is made waveform-shaping is gone out. When the output goes down, it has a slope of 1V /µs in order to lose the influence for the input signal.				
7	N.C	Not connected. (Electrically, this pin is completely open.)				
8	V _{CC}	Power supply pin.				

Timing Chart



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Note: See Electrical Characteristics for symbols in the timing chart.

Maximum Ratings (Ta = 25°C)

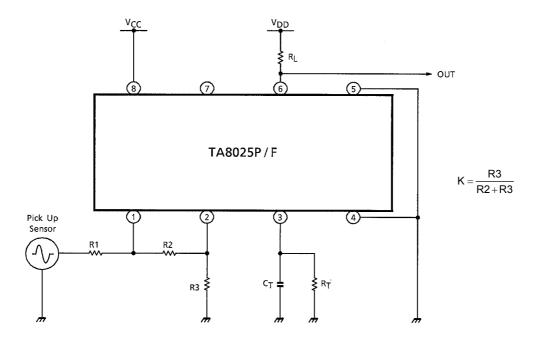
Characteristics	Symbol	Rating	Unit	
Supply Voltage	V_{CC}	36	V	
Input Voltage	V _{IN}	36	V	
Input Current	I _{IN}	±20	mA	
Output Current	I _{OUT}	10	mA	
Power Dissipation	P _D	280	mW	
Operating Voltage	V _{opr}	4.5~30	V	
Operating Temperature	T _{opr}	-40~105	°C	
Storage Temperature	T _{stg}	-55~150	°C	
Lead Temperature-Time	T _{sol}	260 (10s)	°C	

Electrical Characteristics ($V_{CC} = 4.5 \sim 16V$, $Ta = -40 \sim 105$ °C)

Characteristics	Symbol	Pin	Test CirCuit	Test Condition	Min	Тур.	Max	Unit
Supply Current	Icc	V _{CC}	_	Output : OFF	_	3.0	5.0	- mA
Supply Current				Output : ON	_	4.5	8.0	
Input Current	I _{IN}		_	VIN = 0V	-0.2	_	0.1	μΑ
input Current				VIN = V _{CC}	-0.1	_	0.1	
High-Side Minimum Threshold Voltage	V _{TH1}	I _N		V _{REF} = 0V	24	30	36	mA
Zero-Cross Threshold Voltage	V _{TH2}				-20	_	20	
Zener Voltage	VZ		_	I _{IN} = 1mA	24	30	36	V
Input Current	IIN	REF	_	V _{IN} = 0V	-0.2	_	0.1	μА
input Current				V _{IN} = V _{CC}	-0.1	_	0.1	
Output Voltage	V _{OL}		_	I _{OL} = 5mA	_	_	0.5	V
Output Leakage Current	I _{LEAK}	I _{LEAK} OUT		V _{OH} = 5V	-5.0	_	5.0	μΑ
Output Delay Time	Tdelay1	OUT	_	V _{CC} = 16V	_	7.5	20.0	
Output Delay Time	Tdelay2	001	_	V _{DD} = 5V	_	5.0	10.0	μs

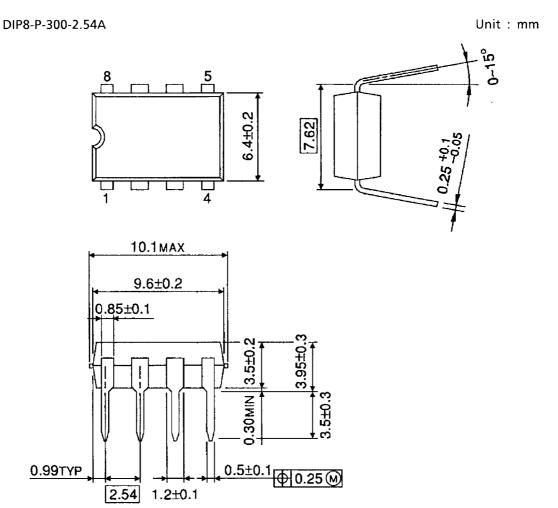
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Example of Application Circuit



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Package Dimensions

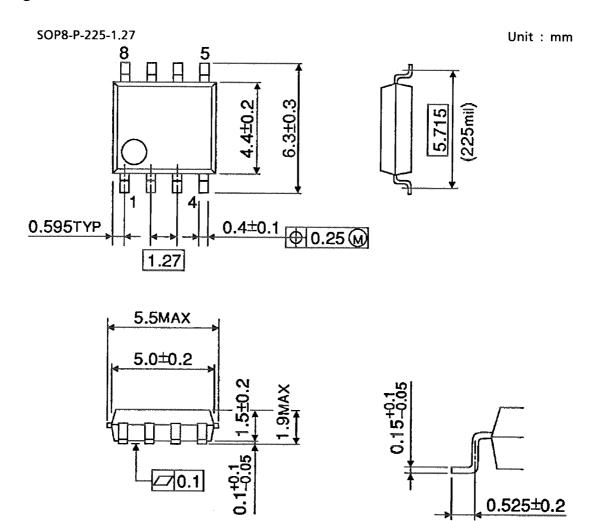


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Weight: 0.45 g (typ.)

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Package Dimensions



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Weight: 0.08 g (typ.)

RESTRICTIONS ON PRODUCT USE

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