

Product Specification

XBLW LM567

General Tone Decoding Circuit

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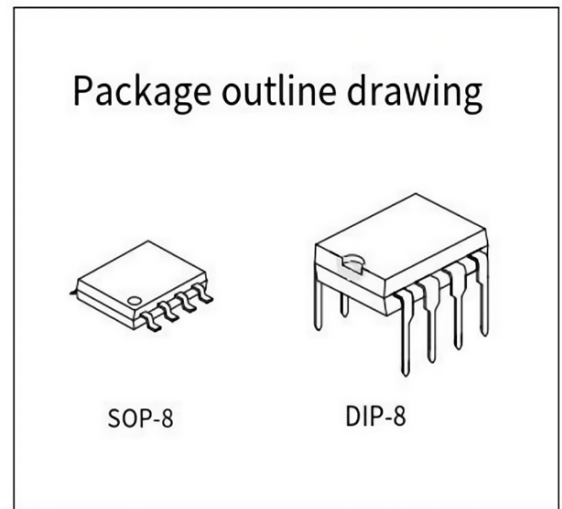


Description

LM567 is a general tone decoding circuit, when the input signal frequency falls within a given passband, the phase-locked loop locks the signal, while controlling the output end output low level, otherwise output high level. This circuit can be used as a generator, modulator and demodulator; Widely used in the communication, remote control, measurement, frequency, monitoring, and other fields.

Feature:

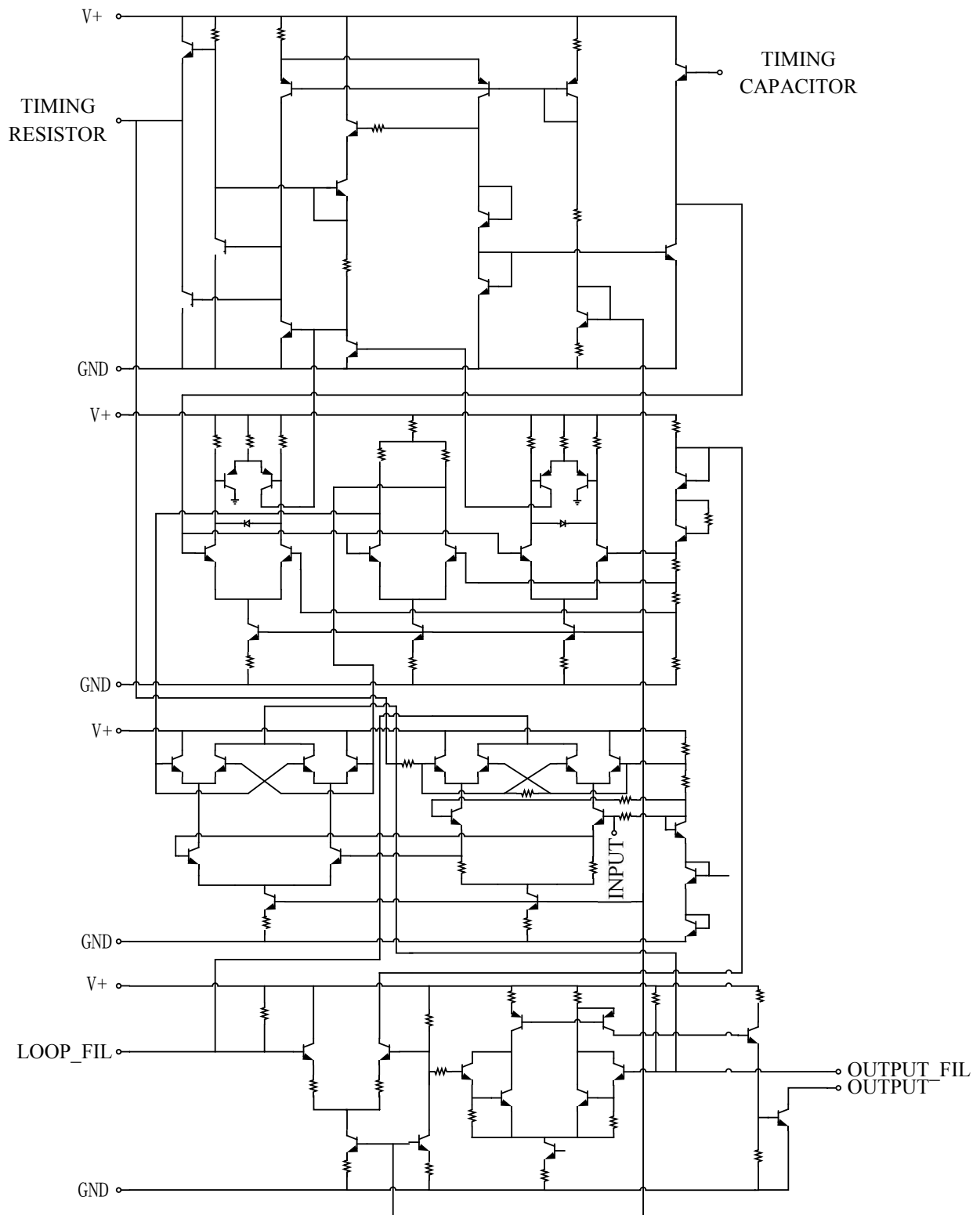
- Frequency bandwidth tunable range: 0 ~ 14%
- High out-of-band signals and noise suppression
- High central frequency stability
- Center frequency adjustment range: 0.01 Hz ~ 500 KHZ
- Frequency can be adjusted in the 20:1 range by using an external resistance
- Output compatible with logic circuit, the current irrigation can bear 100 ma
- Packaging format DIP-8 / SOP-8



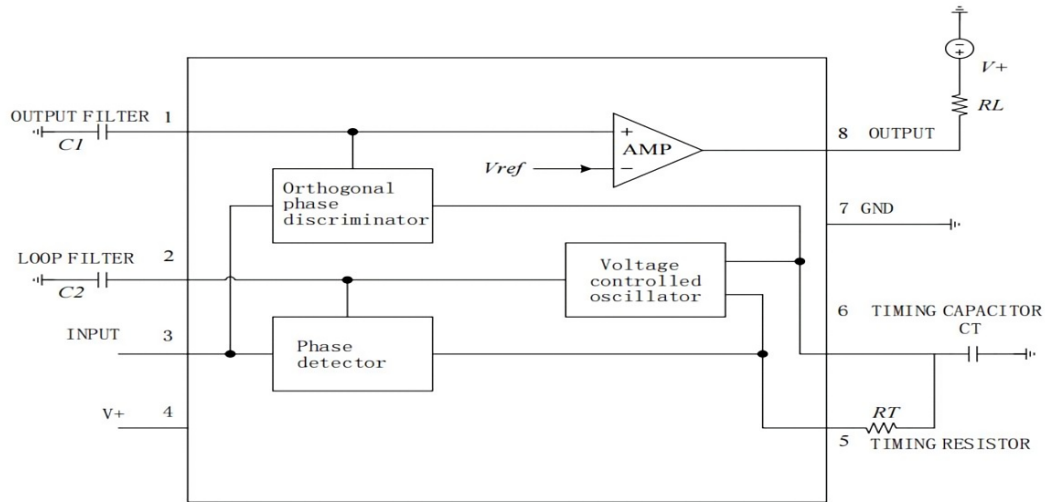
Ordering Information

Product Model	Package Type	Marking	Packing	Packing Qty
XBLW LM567CN	DIP-8	LM567CN	Tube	2000Pcs/Reel
XBLW LM567CM	SOP-8	LM567CM	Tape	2500Pcs/Reel

Functional block diagram



Pin arrangement diagram



Pin descriptions and structure schematic diagram

Pin	Symbols	Features	Pin	Symbols	Features
1	OUTPUT FILTER	Output filter	8	OUTPUT	Logic output
2	LOOP FILTER	Loop filter	7	GND	Ground to earth
3	INPUT	Input signal	6	TIMING CAPACITOR	Timing capacitor
4	V+	Power supply	5	TIMING RESISTOR	Timing resistor

And the parameters of the limit

Tamb=25°C unless otherwise specified

Parameter name	symbol	conditions	rating	Units	
Supply voltage	VCC	--	9	V	
PIN8 voltage	V8	--	15	V	
PIN3 voltage	V3	--	-10 ~ V4+0.5	V	
Working environment temperature	Tamb	--	0 ~ 70	°C	
Storage temperature	Tstg	--	- 65 ~ 150	°C	
Thermal resistance	Theta JA	DIP8	110	°C/W	
		SOP8	160		
Welding temperature	TL	10 S	DIP	250	°C
			SOP	260	°C

Note: The maximum power consumption is a function of TJ (max), θ JA and Tamb, and the maximum allowable power consumption at any allowable ambient temperature is PD= (TJ (max) – Tamb)/θJA.

Working at the ultimate maximum junction temperature TJ (150°C) affects the reliability.

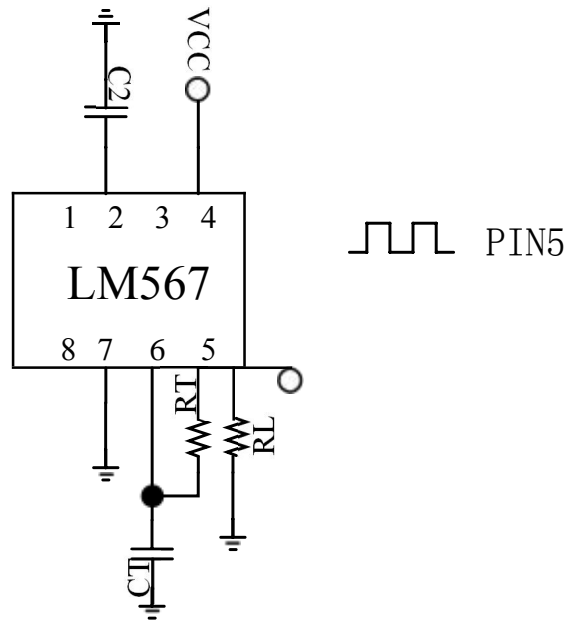
Electrical characteristics

Ac parameters

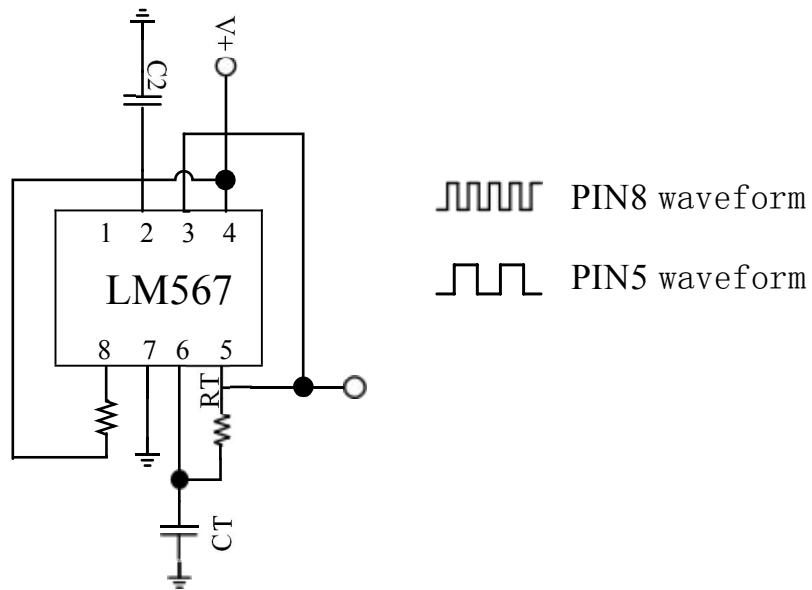
(Unless otherwise specified, Tamb = 25°C and VCC = 5 V)

Parameter name	Symbol	Test conditions	MIN	TYP	MAX	Unit
Supply voltage range	VCC	--	4.75	5	9	V
Static current	IQ	RL=20k	--	7	10	mA
Dynamic current	IA	RL=20k	--	12	15	mA
Input resistor	RIN	--	15	20	--	K Ω
Minimum catchable input voltage	VI_L	IL=100mA,fi=fo	--	20	25	mV
Max no output input voltage	VI_H	IL=100mA,fi=fo	10	15	--	mV
Maxoutofsyncbandsignal ratio	--	--	--	6	--	dB
Minimum input signal to bandwidth noise ratio	--	Bn=140kHz	--	- 6	--	dB
Maximum capture bandwidth	BW	--	10	14	18	% of fo
Maximum capture bandwidth deviation		--	--	2	3	% of fo
Temperature coefficient of maximum capture bandwidth		--	--	± 0.1	--	% / °C
Maximum capture bandwidth voltage factor		4.75 V to 6.75 V	--	± 1	--	%/V
Maximum center frequency	fo	--	100	500	--	kHz
Center frequency temperature coefficient		0 °C ~ 70 °C	--	35± 60	--	ppm/°C
		And 55 °C ~ 125 °C	--	35± 140	--	
Center frequency voltage coefficient		4.75 V to 6.75 V	--	0.4	2	% / V
	4.75 V ~ 9 V	--	--	2		
Maximum switch loop ratio	--	--	--	fo/20	--	--
Output leakage	I _{LEAK}	V ₈ =15V	--	0.01	25	uA
Output saturation voltage	V _{SAT}	I ₈ =30mA	--	0.2	0.4	V
		I ₈ =100mA	--	0.6	1	
Output drop time	t _F	IL=100mA	--	30	30	ns
Output rise time	t _R	IL=100mA	--	150	150	ns

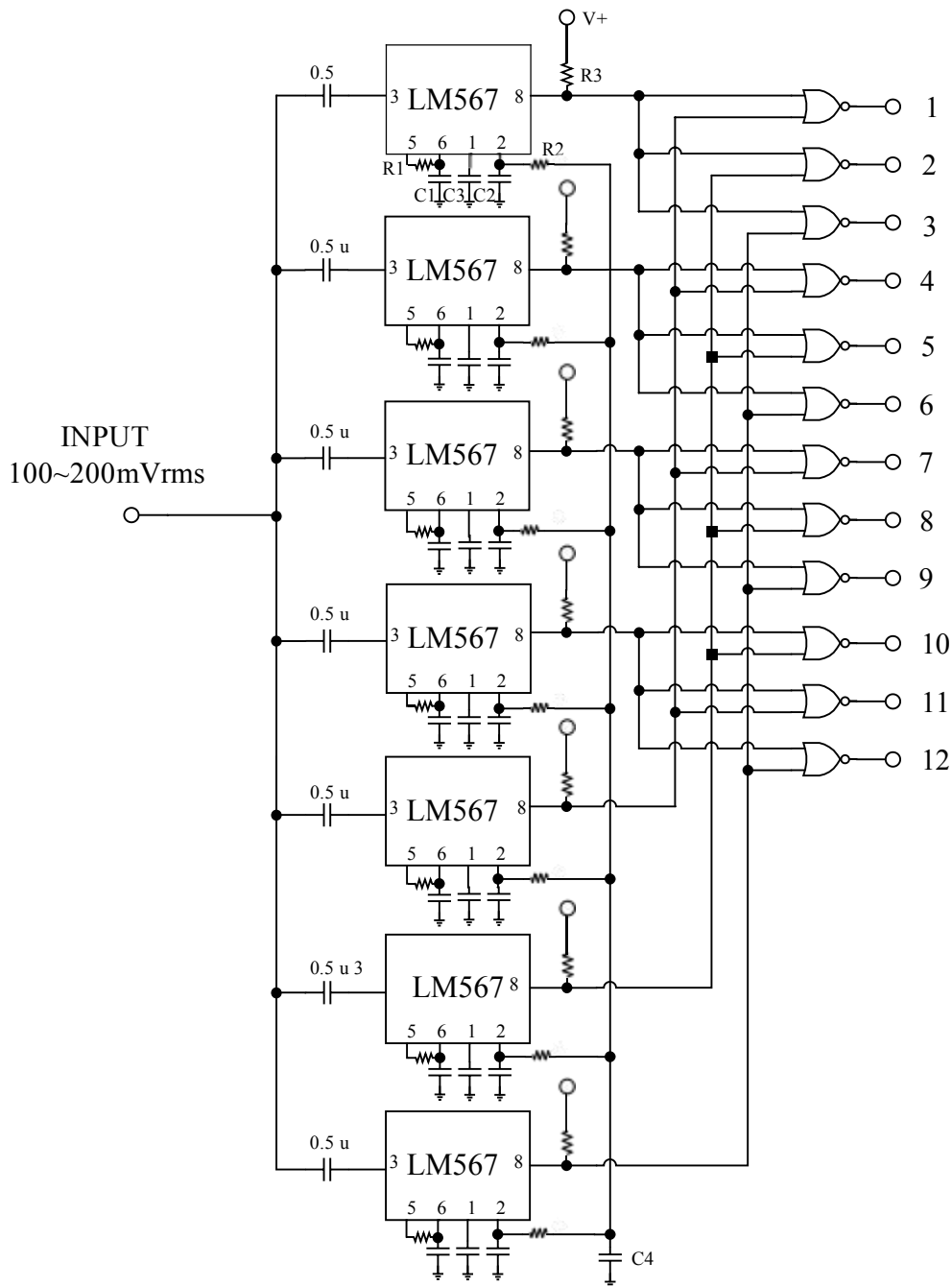
Apply the circuit



Precision square wave generator



Phase-locked loop dual-frequency precise oscillator



Typical applications

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