

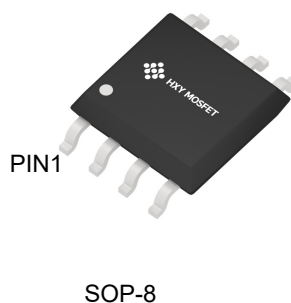
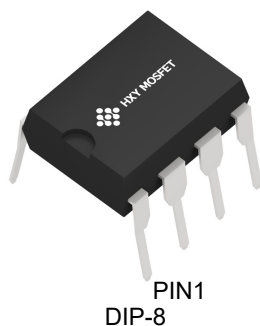


Description

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 band width 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
- Pack aging format DIP-8 / SOP-8

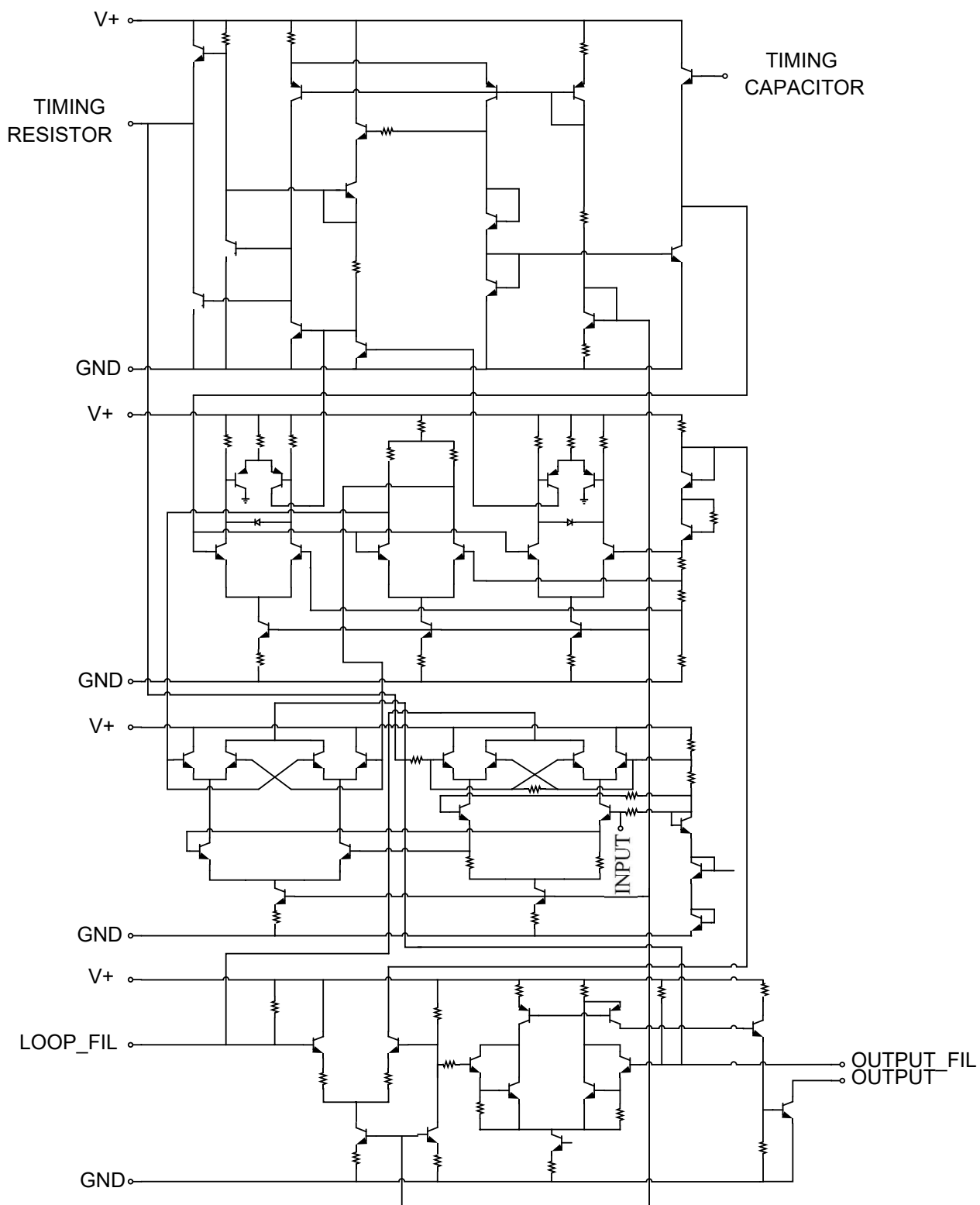


Ordering Information

Product Model	Package Type	Packing	Packing Qty
LM567CN/NOPB	DIP-8	Tube	2000Pcs/Reel
LM567CMX/NOPB	SOP-8	Tape	2500Pcs/Reel

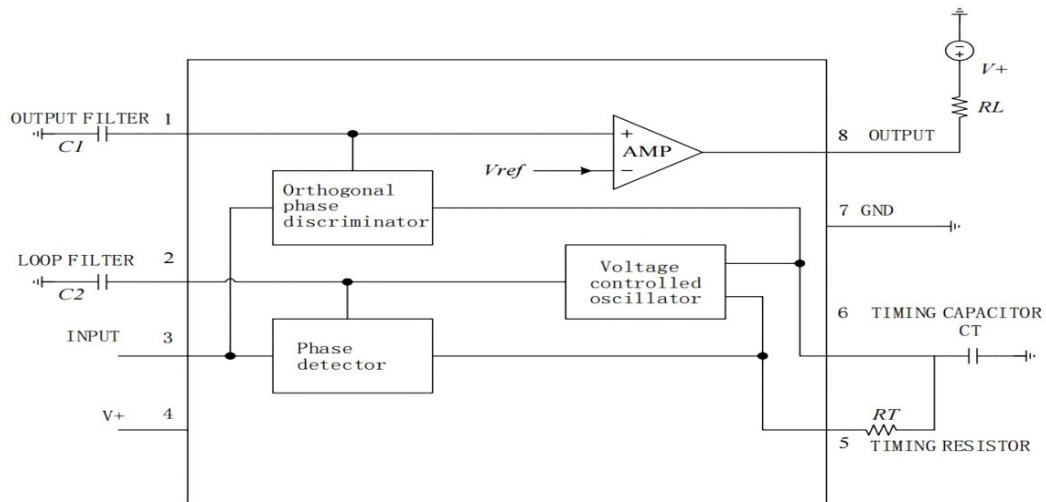


Functional block diagram





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	DIP-8		110	°C/W
		SOP-8		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 $PD = (T_J(\text{max}) - T_{\text{amb}}) / \theta_{JA}$. Working at the ultimate maximum junction temperature TJ (150°C) affects the reliability.



Electrical characteristics

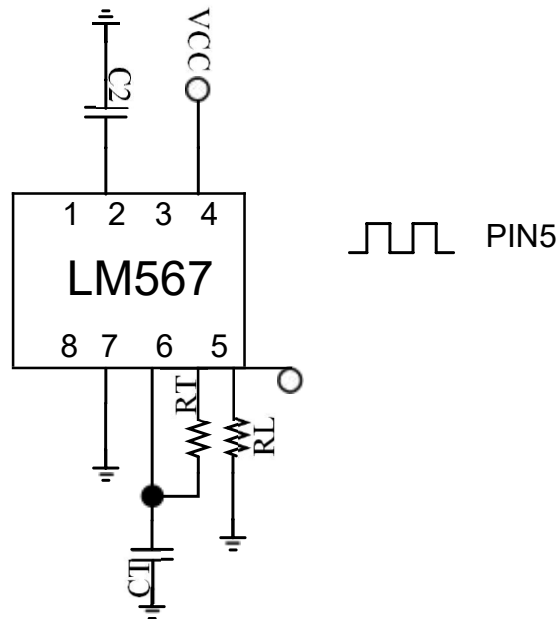
Ac parameters

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

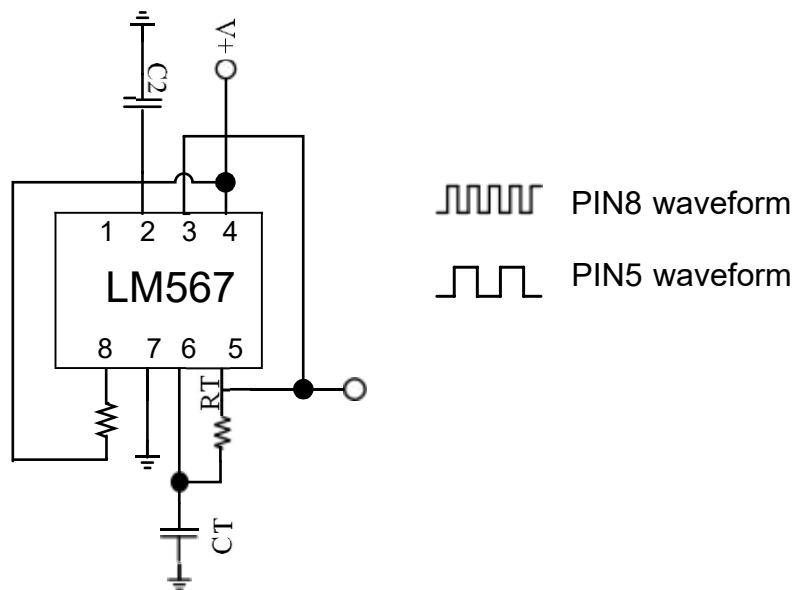
Parameter name	Symbol	Test conditions	Min	Typ	Max	Unit
Supply voltage range	VCC	--	4.75	5	9	V
Static current	IQ	RL=20k	--	7	10	mA
Dynamic current	IA	RL=20k	--	12	15	mA
Input resistor	RIN	--	15	20	--	KΩ
Minimum catchable input voltage	VI_L	IL=100mA,fi=fo	--	20	25	mV
Max no output input voltage	VI_H	IL=100mA,fi=fo	10	15	--	mV
Max out of syncband signal 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	ILEAK	V8=15V	--	0.01	25	uA
Output saturation voltage	VSAT	I8=30mA	--	0.2	0.4	V
		I8=100mA	--	0.6	1	
Output drop time	tF	IL=100mA	--	30	30	ns
Output rise time	tR	IL=100mA	--	150	150	ns



Apply the circuit



Precision square wave generator



Phase-locked loop dual-frequency precise oscillator



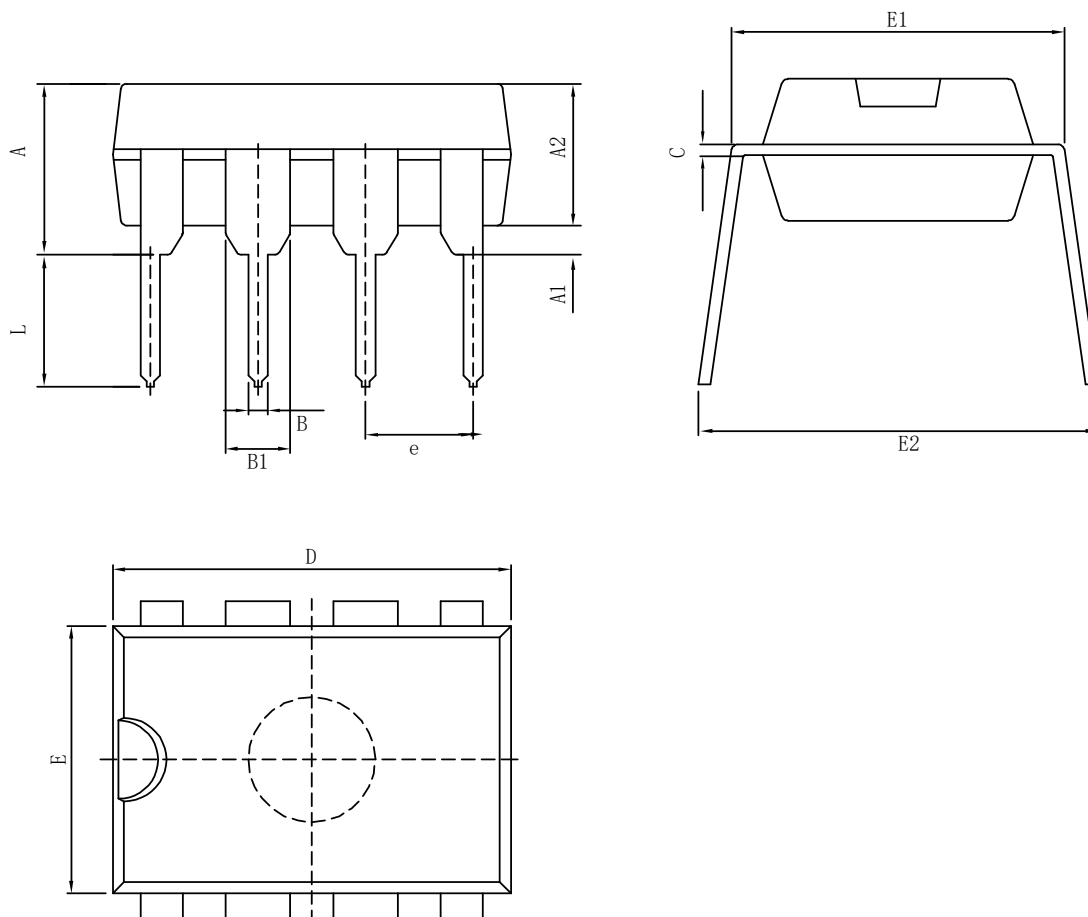
General Tone Decoding Circuit





Package Information

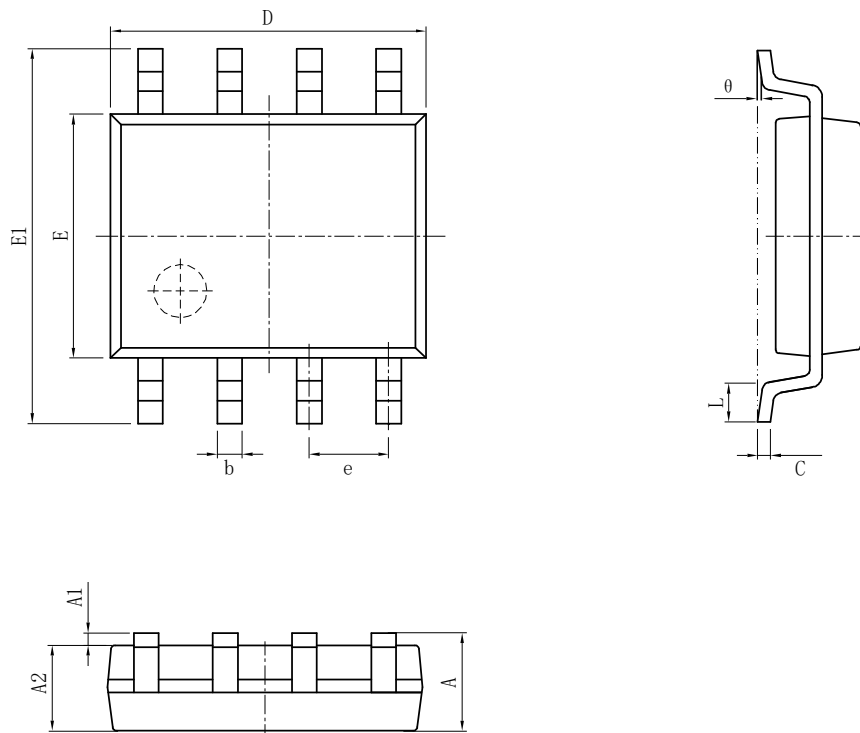
DIP-8



Symbol \ Size	Dimensions In Millimeters		Symbol \ Size	Dimensions In Inches	
	Min (mm)	Max (mm)		Min (in)	Max (in)
A	3.710	4.310	A	0.146	0.170
A1	0.510		A1	0.020	
A2	3.200	3.600	A2	0.126	0.142
B	0.380	0.570	B	0.015	0.022
B1	1.524 (BSC)		B1	0.060 (BSC)	
C	0.204	0.360	C	0.008	0.014
D	9.000	9.400	D	0.354	0.370
E	6.200	6.600	E	0.244	0.260
E1	7.320	7.920	E1	0.288	0.312
e	2.540 (BSC)		e	0.100 (BSC)	
L	3.000	3.600	L	0.118	0.142
E2	8.400	9.000	E2	0.331	0.354



SOP-8



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Inches	
	Min (mm)	Max (mm)		Min (in)	Max (in)
A	1.350	1.750	A	0.053	0.069
A1	0.100	0.250	A1	0.004	0.010
A2	1.350	1.550	A2	0.053	0.061
b	0.330	0.510	b	0.013	0.020
c	0.170	0.250	c	0.006	0.010
D	4.700	5.100	D	0.185	0.200
E	3.800	4.000	E	0.150	0.157
E1	5.800	6.200	E1	0.228	0.224
e	1.270 (BSC)		e	0.050 (BSC)	
L	0.400	1.270	L	0.016	0.050
θ	0°	8°	θ	0°	8°



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