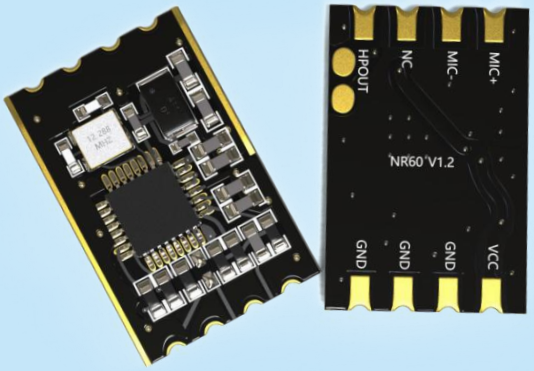
NR60 Noise Reduction Module

- Maximum noise suppression ≤80dB
- Powerful echo cancellation and environmental noise suppression capabilities
- Compact size with a stamp-hole design, convenient for secondary development

Product Specification



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Note: Revision History

Revision	Date	Comment
V2.0	2025-4	First release
V2.1	2025-8	Update product feature description
V2.2	2025-9	Update PIN definition

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1. Description

NR60 module is an audio processing module developed by NiceRF, integrating noise reduction and echo cancellation.

2. Features

- product is designed for near-field noise reduction, best with the voice within 10cm of the microphone
- surrounding environmental noise suppression strength is less than 80dB
- Filters out sounds such as:steady-state noise, music noise, wind noise, transient random noise, mechanical noise, and other non-human voice noises
- time from MIC input noise reduction to HPOUT audio output is 76 ms
- Sampling rate: 16K, 16 bits

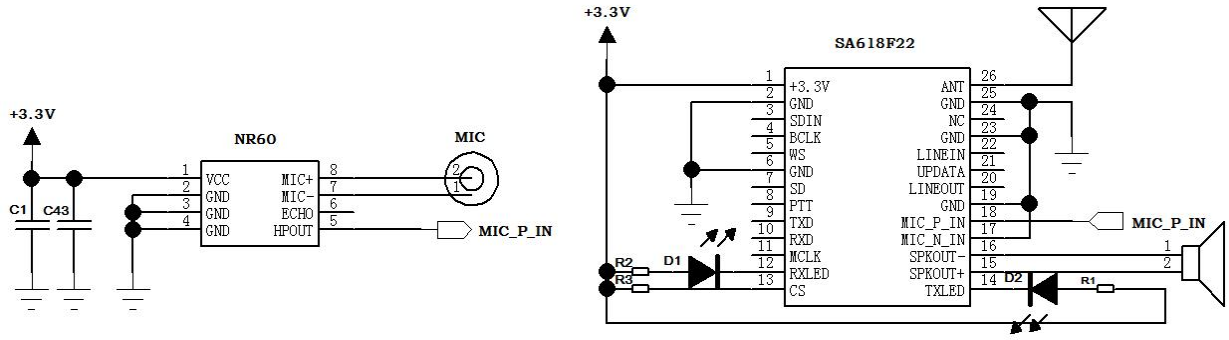
3. Applications

- Online video conference call
- Online video streaming
- Various scenarios requiring background noise filtration
- Online education
- Social entertainment

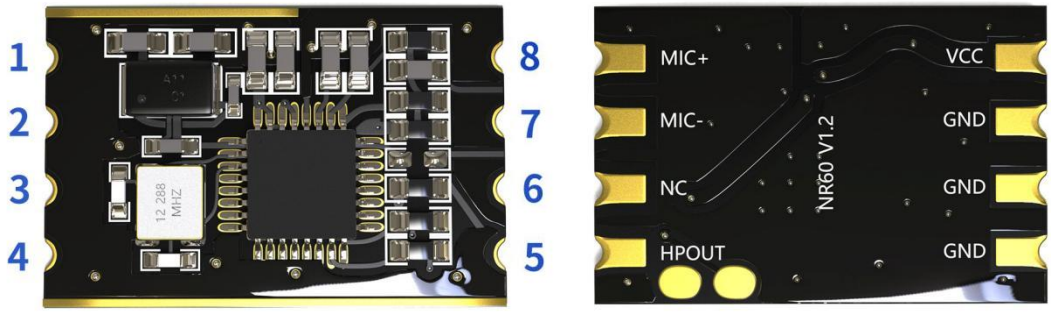
4. Electrical Characteristics

Parameters	Condition	Min.	Typ.	Max.	Unit
Power Supply		3.3		5.5	V
Working temperature		-20	25	85	℃
Current consumption					
Operating current			22		mA
Noise reduction parameters					
Signal-to-noise ratio	Signal power to background noise ratio		-5<SNR<0		
Maximum noise suppression	Microphone ambient noise		≤80		db
Voice distance	Distance from the person to the microphone		<10		cm

5. Typical Application

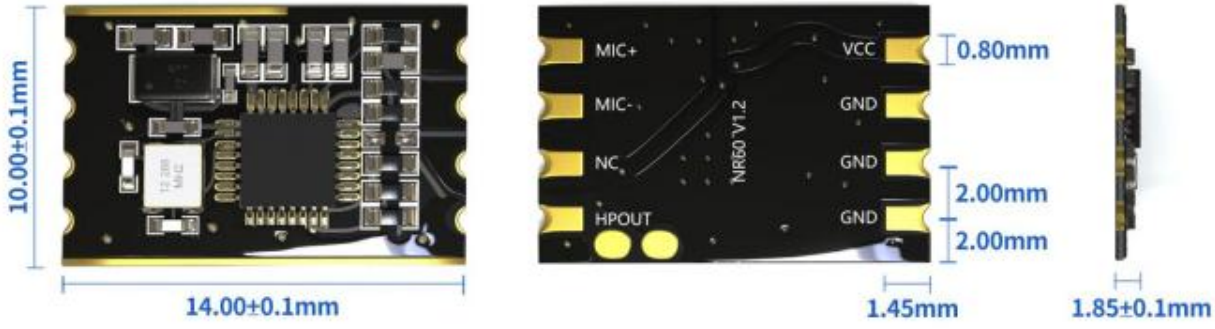


6. Pin definition



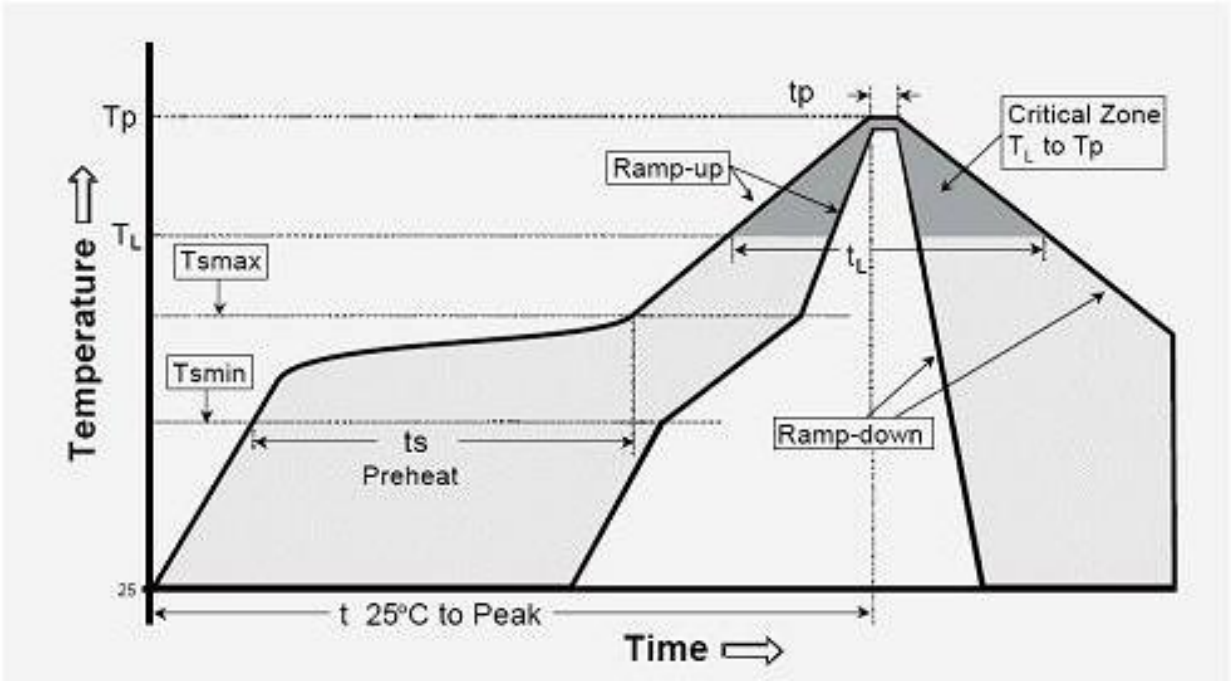
Pin NO	Pin name	I/O	Description
1	VCC		External power supply positive terminal(Minimum 3.3V, Maximum 5.5V)
2,3,4	GND		Connect to power ground
5	HPOUT	O	audio output pin is typically connected to the MIC_IN pin of the customer's productn
6	ECHO	I	Floating
7	MIC-	I	Microphone negative input pin
8	MIC+	I	Microphone positive input pin

7. Size(Unit:mm)



Appendix :SMD Reflow Chart

Below reflow profile is recommended for SMT technology:



IPC/JEDEC J-STD-020B the condition for lead-free reflow soldering	big size components (thickness >=2.5mm)
The ramp-up rate (Tl to Tp)	3℃/s (max.)
preheat temperature - Temperature minimum (Tsmin) - Temperature maximum (Tsmax) - preheat time (ts)	 150℃ 200℃ 60~180s
Average ramp-up rate(Tsmax to Tp)	3℃/s (Max.)
- Liquidous temperature(TL)	217℃
- Time at liquidous(tL)	60~150 second
peak temperature(Tp)	245+/-5℃