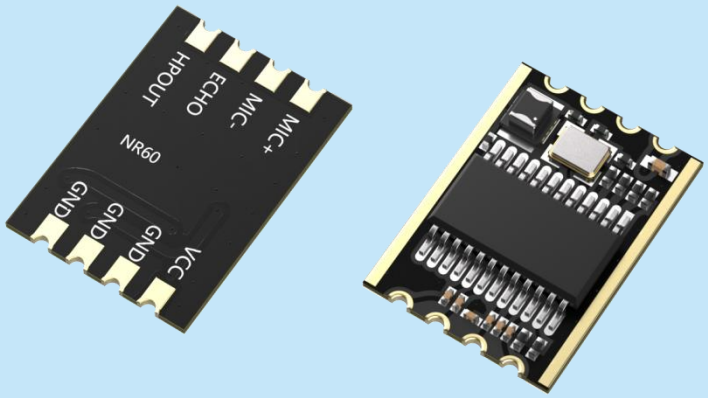
NR60 Noise Reduction Module

- 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



Content

Note: Revision History

Revision	Date	Comment
V1.0	2024-11	First release

*Our company reserves the right to change, correct, enhance, or modify the products and this document at any time without prior notice. Users can obtain the latest relevant information before placing an order. The information in this notice supersedes and replaces the information in previous versions.

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
- It suppresses electronic noise, wind noise, wave sounds, car horns, and sudden interference

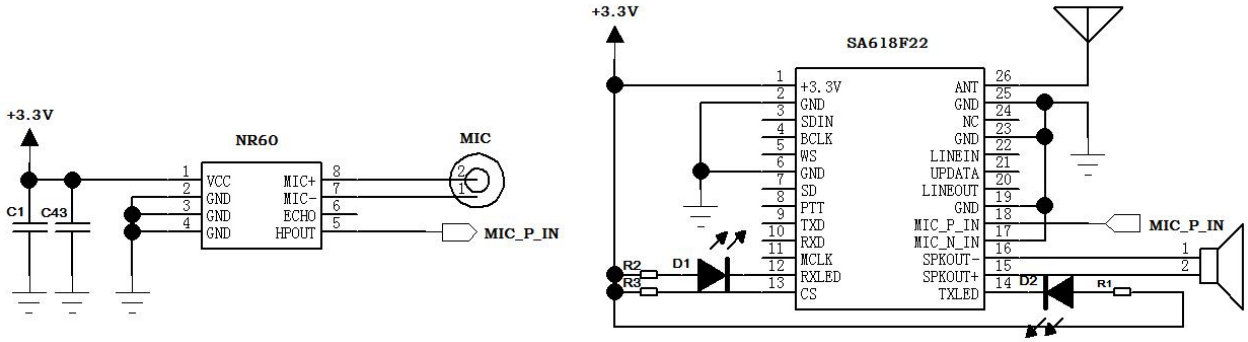
3. Applications

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

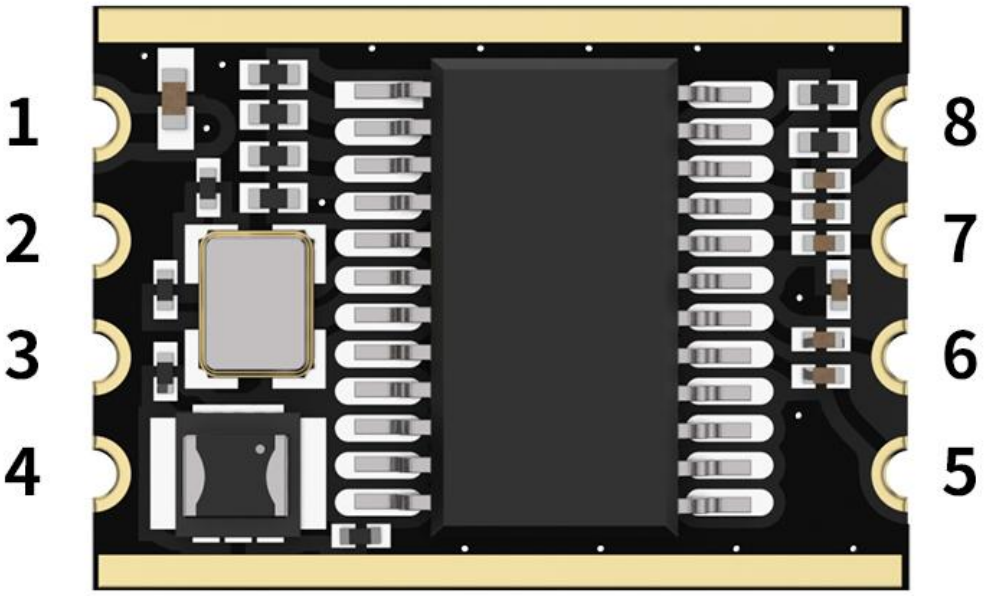
4. Electrical Characteristics

Parameters	Condition	Min.	Typ.	Max.	Unit
Power Supply		3.3		5.5	V
Working temperature		-20	25	85	℃
Current consumption					
Operating current			33		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

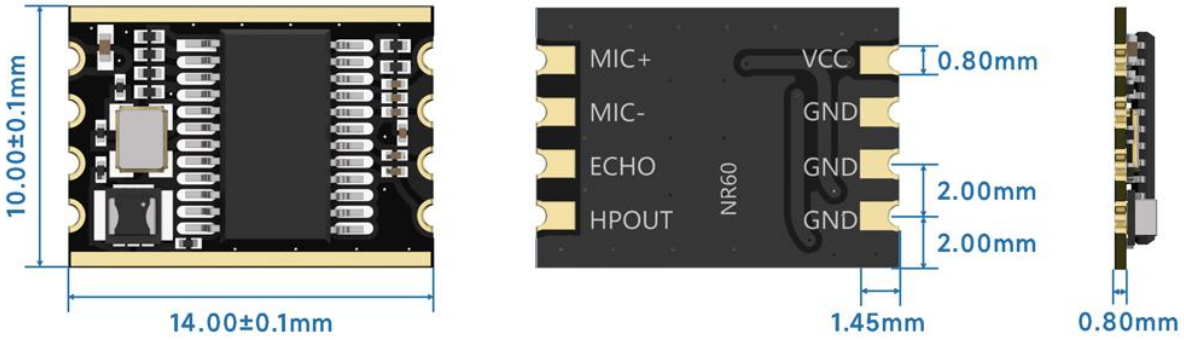


6. Pin definition



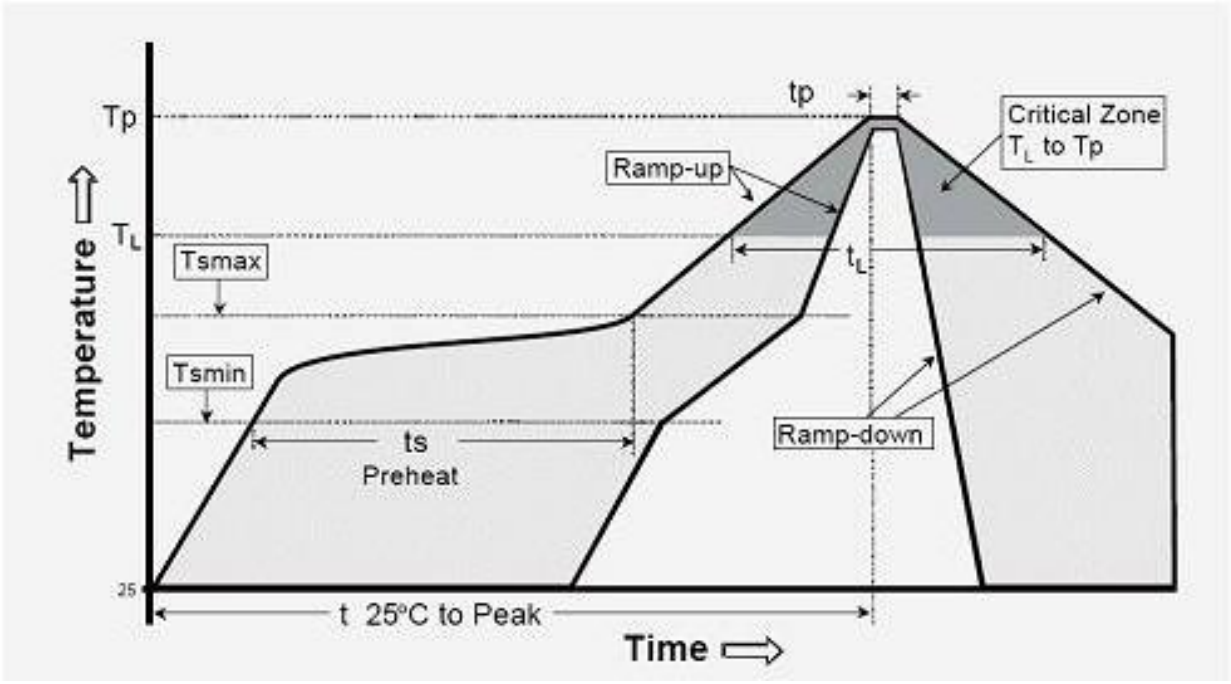
Pin NO	Pin name	I/O	Description
1	VCC		External power supply positive terminal(Minimum 3.3V, Maximum 5.5V)
2,3,4	GND		Connect to power ground
5	HPOUT	O	audio output pin is typically connected to the MIC_IN pin of the customer's productn
6	ECHO	I	Floating
7	MIC-	I	Microphone negative input pin
8	MIC+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

7. Dimensions (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℃