



ZIRM38NL-7

Infrared Remote Control Receiver Module

Description:

The ZIRM38NL-7 device are miniature type infrared remote control system receiver which has been Pin Configuration developed and designed by utilizing the most updated IC technology. The PIN diode and preamplifier are assembled on lead frame, the epoxy package is designed as an IR filter. The demodulated output signal can directly be decoded by a microprocessor.

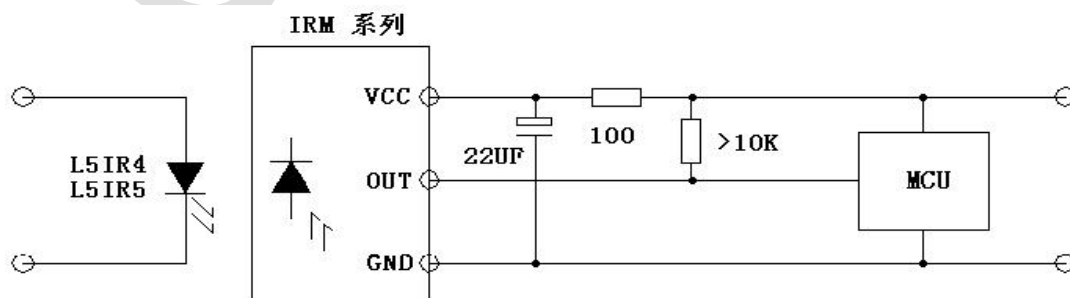
Features:

- High protection ability against EMI
- Ellipsoid lens for improved reception characteristics
- Available for various carrier frequencies
- Low operating voltage and low power consumption
- High immunity against ambient light
- Long reception range
- High sensitivity
- Pb free and RoHS compliant

Applications:

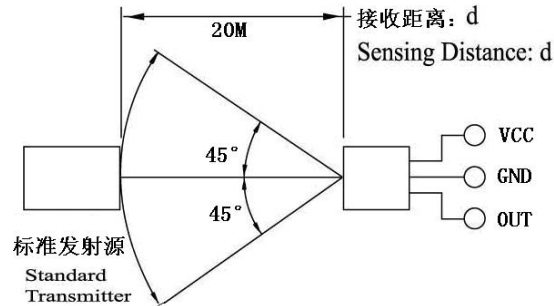
- Light detecting portion of remote control
- AV instruments such as Audio, TV, VCR, CD, MD, etc.
- Home appliances such as Air-conditioner, Fan, etc.
- The other equipments with wireless remote control.
- CATV set top boxes
- Multi-media Equipment

Application circuit





Receiving Angle Diagram



Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Supply Voltage	VR _{CC}	0—6	V
Operating Temperature	Topr	-40—+80	°C
Storage Temperature	Tstg	-40 — +100	°C
Soldering Temperature	Tsol	260 (5S)	°C

Electro-Optical Characteristics

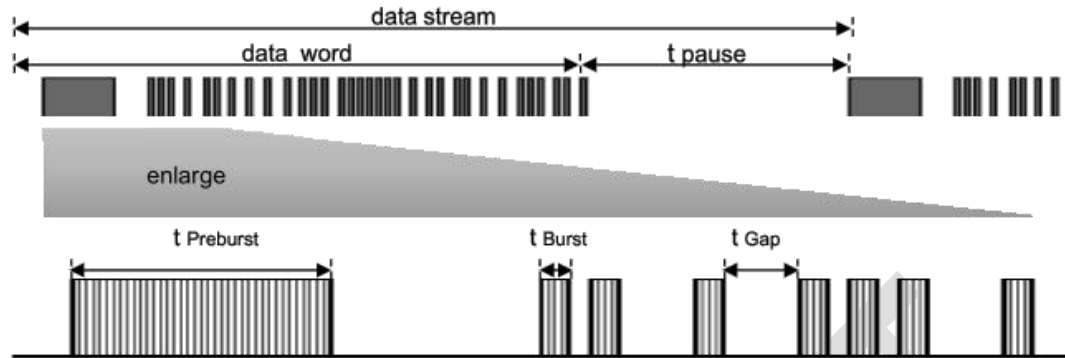
Specifications hold over the Recommended Operating Conditions, unless Otherwise herein. All values are at 25°C and V_{cc}=3.0V/5.0V

Parameter	Symbol	Min	Typ	Max	Unit	Conditions	
Supply Current	I _{cc}	0.2	0.4	0.6	mA	Lin=0μA, V _{cc} =3V	
		0.3	0.53	0.7	mA	Lin=0μA, V _{cc} =5V	
Output Current	I _{out}	0		2.5	mA		
Max. Voltage Gain	A _v	70	76	85	dB	Fin=37.9kHz	
						Vin=30μv kHz	
BPF Bandwidth	fbw	-	5.0	-	kHz	-3Db Bandwidth, Vin=30μv p-p kHz	
BPF Center Frequency	FO	-	38	-	kHz	**	
Output Pulse Width	T _{pw}	400	600	750	μs	Fin=37.9kHz, 600us, burst wave Vin=500μv p-p	
Low level Output Voltage	VoL	-	0.2	0.4	V	Isink=2.0mA	
High level Output Voltage	VoH	2.7	3	-	V	V _{cc} =3V	
		4.7	5	-	V	V _{cc} =5V	
Reception distance	L	0°	18	20	-	M	V _{CC} =5V
		45°	10	12	-	M	
Half angle	Δθ		±45		Deg	**	



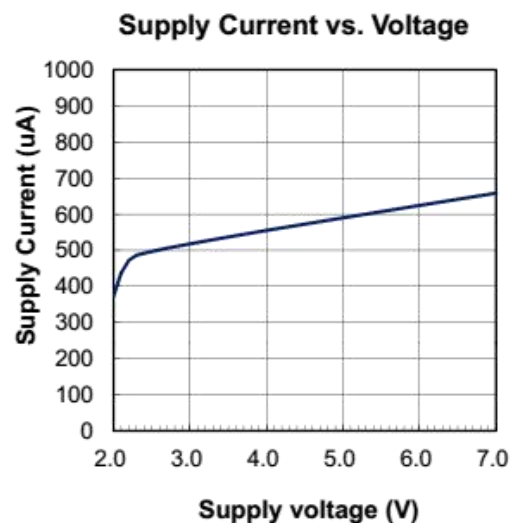
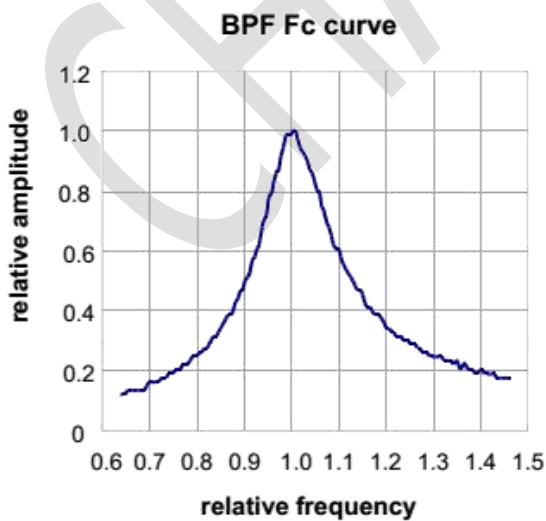
Characteristics Curve

[Fig. 2] Data Signal diagram



Minimum Burst length t_{Burst} (number of pulses per burst)	250 us
Minimum data pause time $t_{Burst-gap}$ (number of pulses per burst) Between two burst	300 us
Minimum data pause time (for full frame repeat code)	25 ms

Data format	NEC	yes
	Toshiba Code	yes
	RC5 Code	yes
	RC6 Code	yes
	Sony 12bit	yes
	Sony 15bit/20bit Code	no
	XMP/RCMM Code	no





Test Waveform

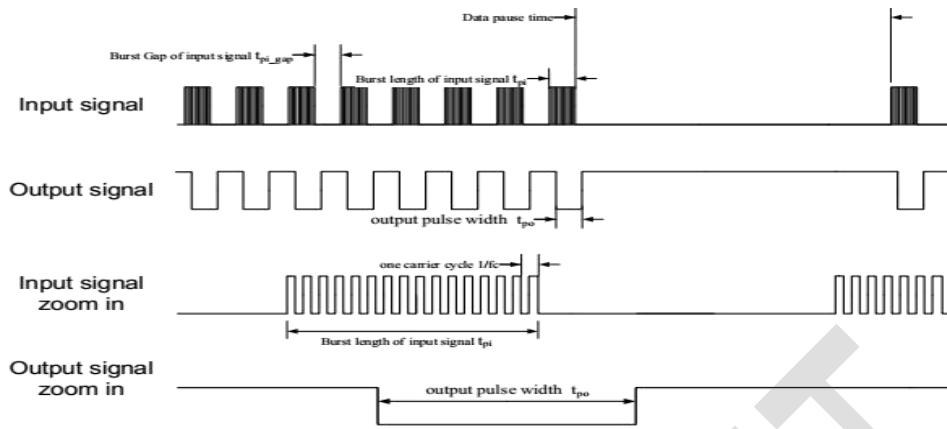
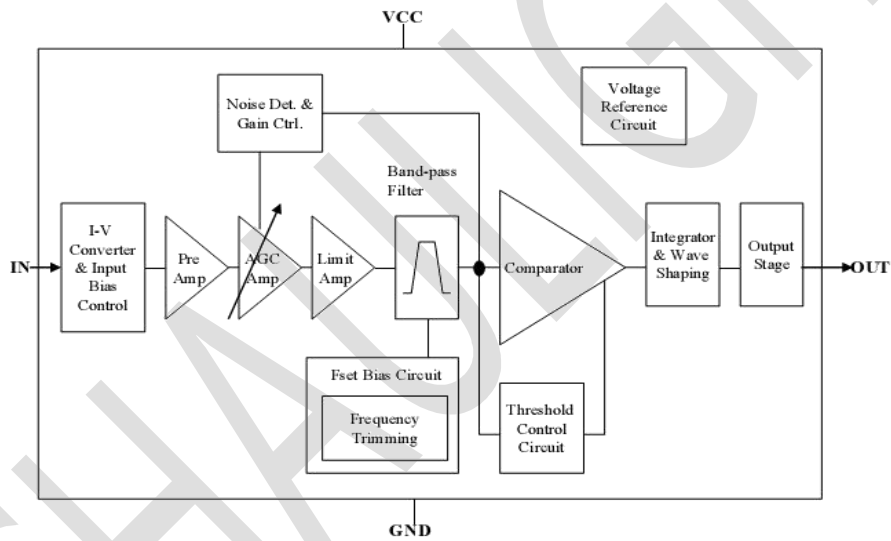


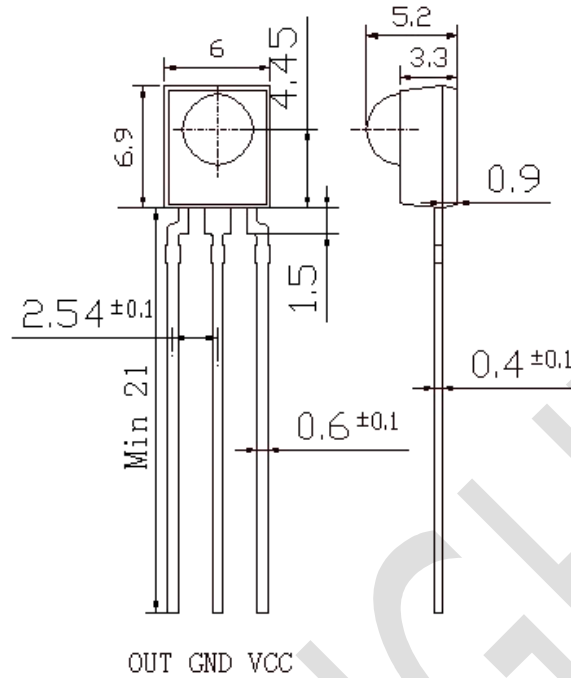
Fig.1 Test signal

Circuit Schematic

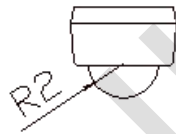




Package Dimension



OUT GND VCC



Notes:

1. All dimensions are in millimeters
2. Tolerances unless dimensions $\pm 0.3\text{mm}$
3. Lead spacing is measured where the lead emerge from the package



Packing Quantity Specification

250PCS/1Bag

Notes

1. Above specification may be changed without notice. CHAU LIGHT will reserve authority on material change for above specification.

2. When using this product, please observe the absolute maximum ratings and the instruction for using outlined in these specification sheets. CHAU LIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.

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