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BK17

SRD | TRX | SAW | ISM 433.050 – 434.790 MHz

TABLE 1 – BK17 VERSIONS

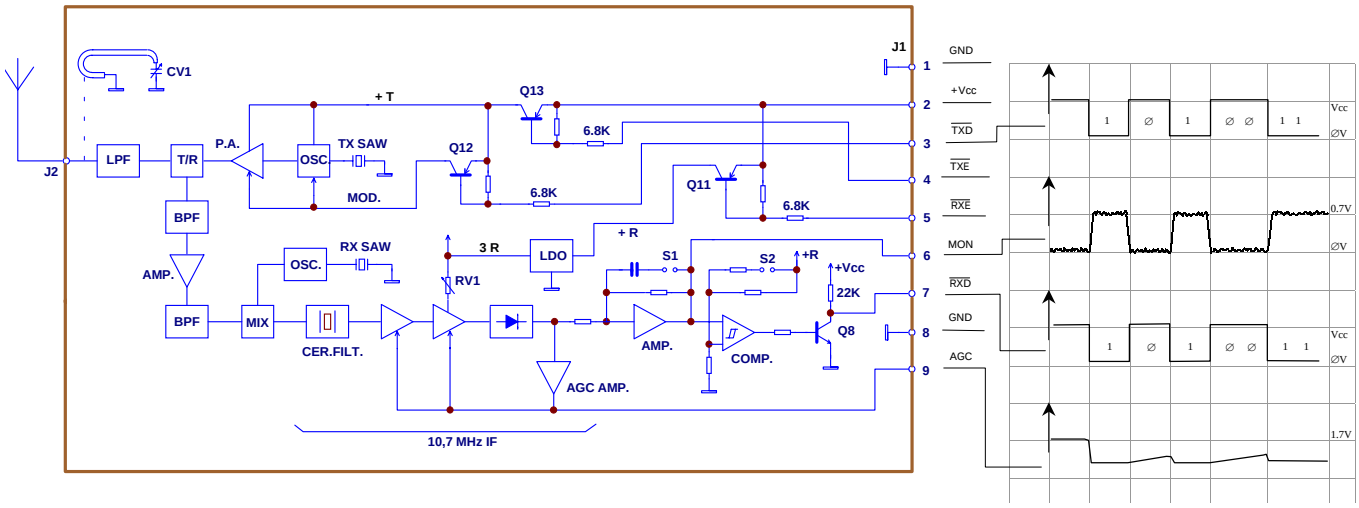
BK17A5-G4	**(1) 433.925 MHz 5Vdc**	**38.4 KB**
BK17A3-G4	**(1) 433.925 MHz 3.6Vdc**	**38.4 KB**
BK17L5-G4	433.925 MHz 5Vdc	38.4 KB (2)
BK17L3-G4	433.925 MHz 3.6Vdc	38.4 KB (2)
BK17S5-G4	433.925 MHz 5Vdc	64 KB
BK17S3-G4	433.925 MHz 3.6Vdc	64 KB

NOTE (1) : STANDARD VERSIONS WITH EX STOCK AVAILABILITY. PLEASE CONTACT THE FACTORY FOR SAMPLES AND AVAIBILITY OF NON STANDARD VERSIONS.
NOTE (2) : LOOP ANTENNA EQUIPPED.

- SAW RESONATOR CONTROLLED.
- HIGH TX POWER (15 mW).
- HIGH RX SENSITIVITY (-102 dBm).
- GASK MODULATION.
- HIGH DATA RATE.

DESCRIPTION:

The BK17 is a radio transceiver module for use in bi-directional data transfer applications up to 64 KB. The module operates on the 433.92 MHz ISM band and is recognized as the ideal solution for wireless short range data transmission, wireless alarms, remote meter reading and many other wireless applications. The BK17 utilizes an advanced ASK Gaussian shaped (GASK) modulation for a better rejection of multipath propagation signal distortion. The transmitter section of the BK17 is provided by a "SAW" stabilized oscillator feeding a P.A. stage. The receiver is a superetherodyne with "SAW" stabilized local oscillator and with a very low current consumption. The BK17 is easily directly interfaced to microprocessors and is equipped by a proprietary demodulation system insensitive to the data's mean value.



BK17 - PERFORMANCE DATA

		Min	Typ	Max	Units	Notes
▪ FREQUENCY		433.825	433.925	434.025	MHz	(1)
▪ ANTENNA IMPEDANCE			50		Ω	
▪ TX RF POWER		10	15		mW	(2)
▪ TX SPURIOUS EMISSION				-45	dBc	
▪ RX SENSITIVITY		-99	-102		dBm	(3)
▪ RX SELECTIVITY			±100		KHz	
▪ RX DYNAMIC RANGE		80	90		dB	
▪ DATA RATE	BK17A-BK17L BK17S			38.4 64	KB KB	(4) (4)
▪ T-R SWITCHING TIME			0.5	1	ms	
▪ SUPPLY VOLTAGE	BK17 x 5 BK17 x 3	4.5 3	5 3.6	6 4.5	V V	
▪ SUPPLY CURRENT	RX MODE TX MODE		7.5 12	8.5 25	mA mA	(5) (5)
▪ OPERATING TEMPERATURE		-20		+60	°C	

NOTE :
(1) OVER OPERATING TEMPERATURE RANGE.
(2) MAX LEGAL ERP IS 10mW – antenna system with a radiating efficiency of 70% or less must be employed.
(3) 19.2KB – BER 1%.50/50 MARK/SPACE DATA PATTERN.
(4) TYP. VALUE FOR 50/50 MARK/SPACE DATA PATTERN - MAX VALUE FOR CW EMISSION.

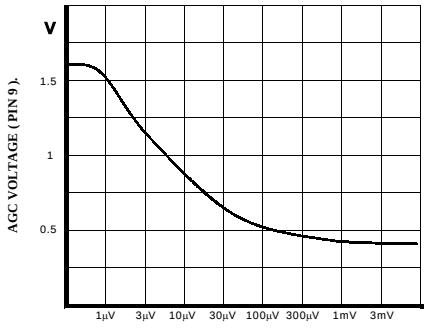


Fig. 2 – AGC VOLTAGE ON PIN 9

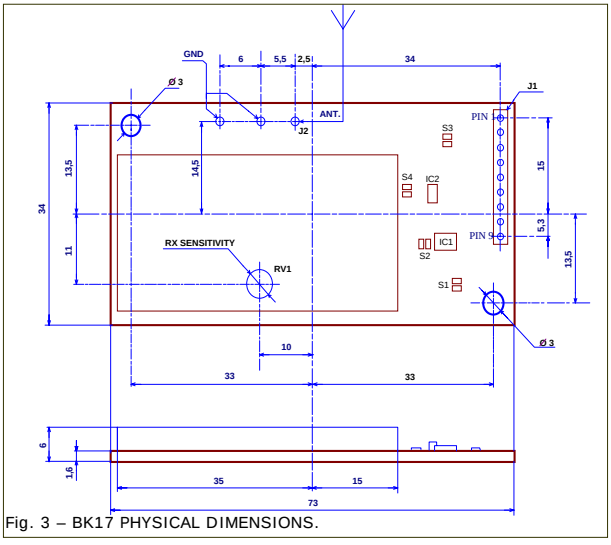


Fig. 3 – BK17 PHYSICAL DIMENSIONS.

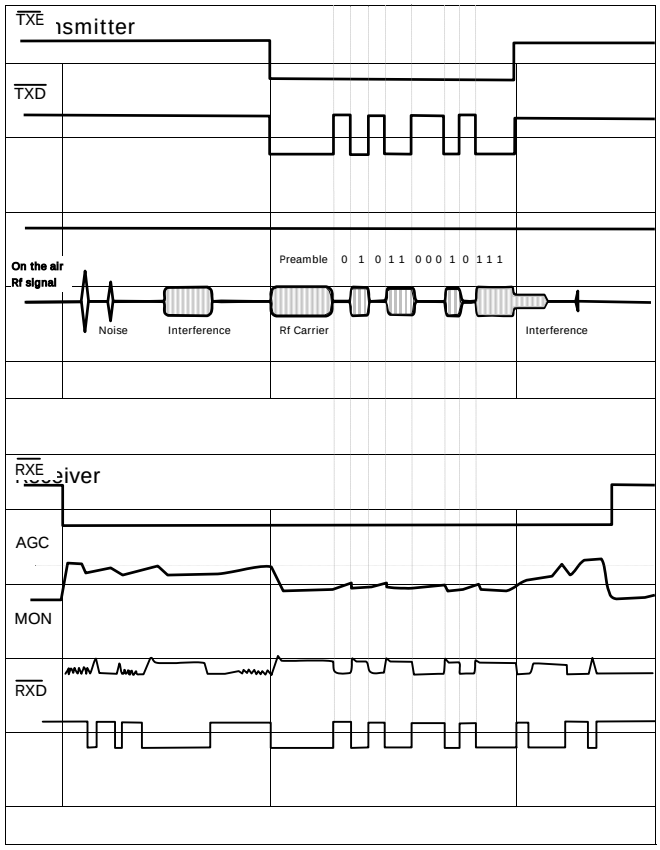


Fig. 4: Transmitter and receiver operation and wave form

PIN DESCRIPTION		
PIN 1	GND	GROUND
PIN 2	VCC	+DC SUPPLY
PIN 3	TXD	TX DATA INPUT
PIN 4	TXE	TX ENABLE-ACTIVE LOW
PIN 5	RXE	RX ENABLE-ACTIVE LOW
PIN 6	MON	ANALOG OUTPUT
PIN 7	RXD	RX DATA OUTPUT
PIN 8	GND	GROUND
PIN 9	AGC	"AGC" VOLTAGE OUTPUT- [Fig.2]

NOTE:

The data must be preceded by a "Preamble" (a "1" or a sequence 0-1-0-1-) 1 to 3 ms long to stabilize the "AGC" level. The "AGC" (Automatic Gain Control) is the system employed by the receiver to adapt its own sensitivity to the received peak RF level. Data must be "packetized" with no gaps between bytes and must be initialised with an "XON" and terminated by an "XOFF" a "CRC" or Check-Sum. Data can be detected sampling the middle of every bit period. Synchronization can be obtained controlling the edges of start byte or message taking into consideration that a weak signal at the receiver input will produce some "Jitter" effect on the rising and falling edge of the bits.

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