

# TC1689 FSK RF RECEIVER IC

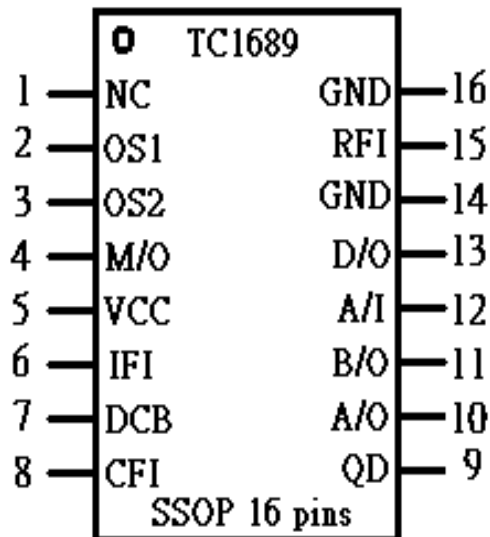
## General Descriptions:

TC1689 is a low power receiver for FM application. It applies to the 27MHz FSK applications such as wireless mouse, keyboard, game pad and data transmitter etc..

## Features:

- Operating voltage: 2V~6V
- Mixing frequency: 10~35 MHZ
- Digital output
- Built-in X'tal oscillator for mixer local oscillator

## Package Pin Description:





### Pin Description:

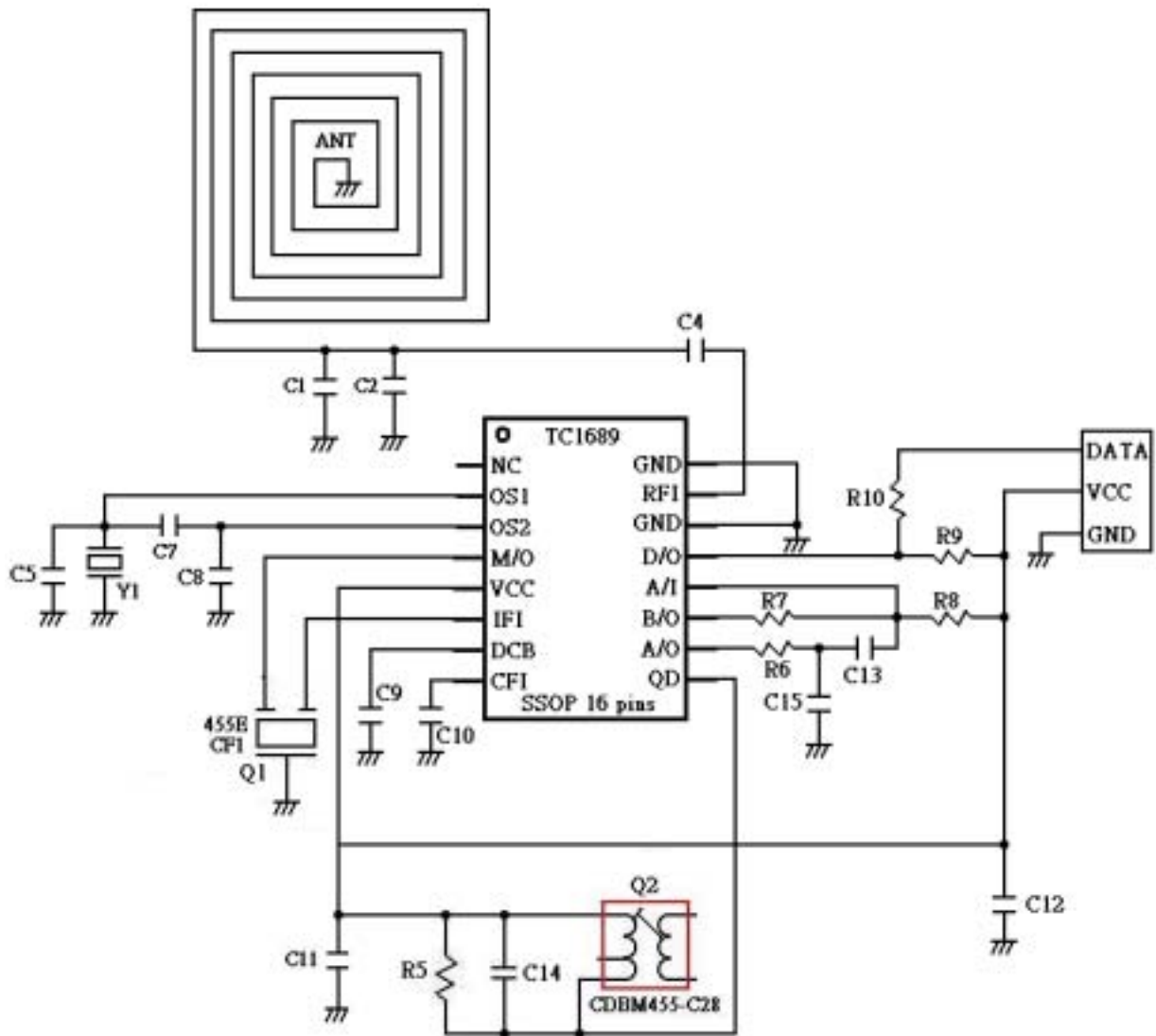
Number	Name	Description
1	NC	No connection
2	OS1	Oscillator input
3	OS2	Oscillator output
4	M/O	Mixer output
5	VCC	Power supply
6	IFI	IF input
7	DCB	IF amplifier connection
8	CFI	IF amplifier connection
9	QD	Quadrature FM demodulator input
10	A/O	Quadrature FM demodulator output
11	B/O	Bias output
12	A/I	Analog in
13	D/O	Data out
14, 16	GND	Ground
15	RFI	Mixer input

### Absolute Maximum Rating:

Parameters	Min.	Max.	Unit	Notes
Storage Temperature	-40	+85		
Operating Temperature	-15	+60		
Lead Solder Temp.		250		
Supply Voltage (VCC)	2	6	V	
Input Voltage	-0.5	VCC+0.5	V	For all input pins
Output Voltage	-0.3	VCC+0.3	V	
ESD		2	KV	For all input pins

**Electrical Characteristics : under the conditions T=25 VCC=3.0V**

	Specifications			Unit	Condition
	Min.	Typ.	Max.		
Frequency Range	10	27	35	MHz	
Modulation		FSK			
Data Rate	0.02	2.4	5	Kbps	
Sensitivity		90		dBm	50
Active current		5	6	mA	
IF Frequency		455		KHz	

**Application Circuit:**




Part list :

Parts	Value	Notes	Parts	Value	Notes	Parts	Value	Notes
C1	TBD	Adjust ANT	C11	0.1u	Ceramic Cap	R8	750K	
C2	TBD	Adjust ANT	C12	1u	Ceramic Cap	R9	10K	
C4	TBD	Adjust ANT	C13	0.1u	Ceramic Cap	R10	1K	
C5	9P	Ceramic Cap	C14	39P	Ceramic Cap	Q1	455K	Filter
C7	22P	Ceramic Cap	C15	4700P	Ceramic Cap	Q2	455K	Filter
C8	10P	Ceramic Cap	R5	3.9K		Y1	26.59M	Crystal
C9	0.1u	Ceramic Cap	R6	4.7K				
C10	0.1u	Ceramic Cap	R7	10K				