GENERAL DESCRIPTOR

The eKM6251 is standard RF Mouse Receiver (Rx) Controller for USB and PS/2 compatible interface. It's receives the RF packet data from RF Rx module (circuits). And decode the RF packet data and transmitting the data to PC by USB or PS/2 interface. The eKM6251 have internal EEPROM to storage the Device ID, do not need the external storage device like 93C46. It's have built-in RF signal sampling and noise immunity function to improve the RF data decode efficiency.

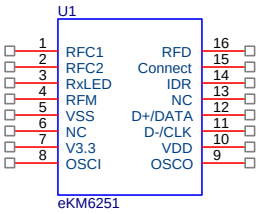
FEATURE

- Operating voltage: 2.5V~5.5V
- Built-in regulator to generate 3.3V
- Operating frequency: 6.00Mhz
- Built-in USB Device Controller and Interface.
- Support USB and PS/2 detect mode and compatible interface.
- Built-in EEPROM to storage 1 byte Device ID (255 sets)
- Built-in RF signal sampling and noise immunity function.
- Support a LED to display RF packet receive status and ID set mode.
- Using jump connect to set Device ID into default ID.
- Support RF monitor pin to check RF packet receive situation.
- To match with RF Mouse Tx controller:
  - EM84100 series
  - EKM6711 : Optical RF Mouse Tx
- Package:
  - 16 pin DIP and NSOP (150mil)

APPLICATION

- USB RF Mouse Rx
- PS/2 RF Mouse Rx

PIN ASSIGNMENT



PIN DESCRIPTOR

	Symbol	I/O	Function
1	RFC1	O	RF module control pin 1 (channel control)
2	RFC2	O	RF module control pin 2 (power down control)
3	RxLED	O	Direct sink LED to display RF packet receive.
4	RFM	O	RF monitor pin, to check RF packet receive situation.
5	VSS	-	Ground
6	NC	-	NC
7	V3.3	O	V3.3 DC voltage output from internal regulator
8	OSCI	I	6.00Mhz ceramic resonator crystal input
9	OSCO	I/O	Output terminal for crystal oscillator
10	VDD	-	5.0V Power supply
11	D-/CLK	I/O	USB: D- line PS/2: CLK line (It's need external USB to PS/2 transfer)
12	D+/DATA	I/O	USB: D+ line PS/2: CLK line (It's need external USB to PS/2 transfer)
13	NC	-	NC
14	IDR	I	ID Reset button, its set device ID to default ID (internal pull high resistor)
15	CONNECT	I	Connect button, it's will receive new device ID duration 10 seconds. (internal pull high resistor)
16	RFD	I	RF data input

ABSOLUTE MAXIMUM RATINGS

Items	Sym.	Condition	Rating
Temperature under bias	T_{OPR}		0℃~70℃
Storage temperature	T_{STR}		-65℃~150℃
Input voltage	V_{IN}		-0.3V~+6.0V
Output voltage	V_O		-0.3V~+6.0V

DC ELECTRICAL CHARACTERISTIC

Parameter	Sym.	Condition	Min.	Typ.	Max.	Unit

APPLICATION CIRCUIT