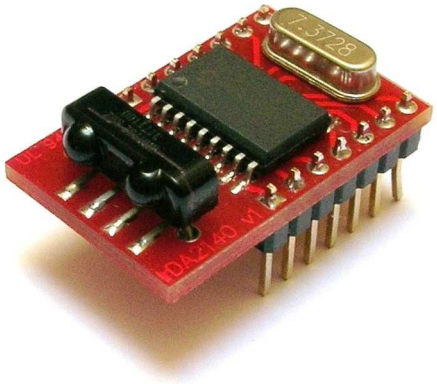
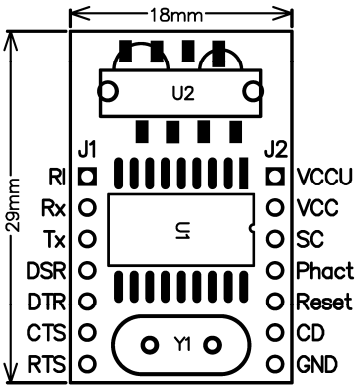
IrDA2140 module

IrDA2140 is a ready-to-use module based on the Microchip MCP2140 IrDA Protocol Stack Controller. It provides embedded system designers the easiest way to implement IrDA standard wireless connectivity. Features:

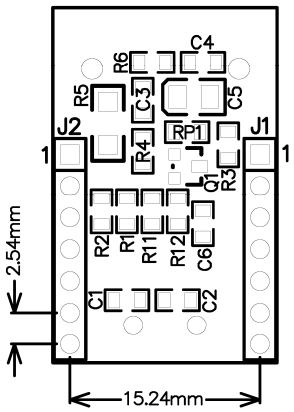
- two-way point-to-point data connection using infrared light
- IrLAP, IrLMP, IAS, TinyTP, IrCOMM (9-wire 'cooked' service class)
- UART interface for connecting to Data Communications Equipment (DCE) or Data Terminal Equipment (DTE) systems, 9.6 kbaud baud rate
- low-power consumption and modes



Physical dimensions



Top view

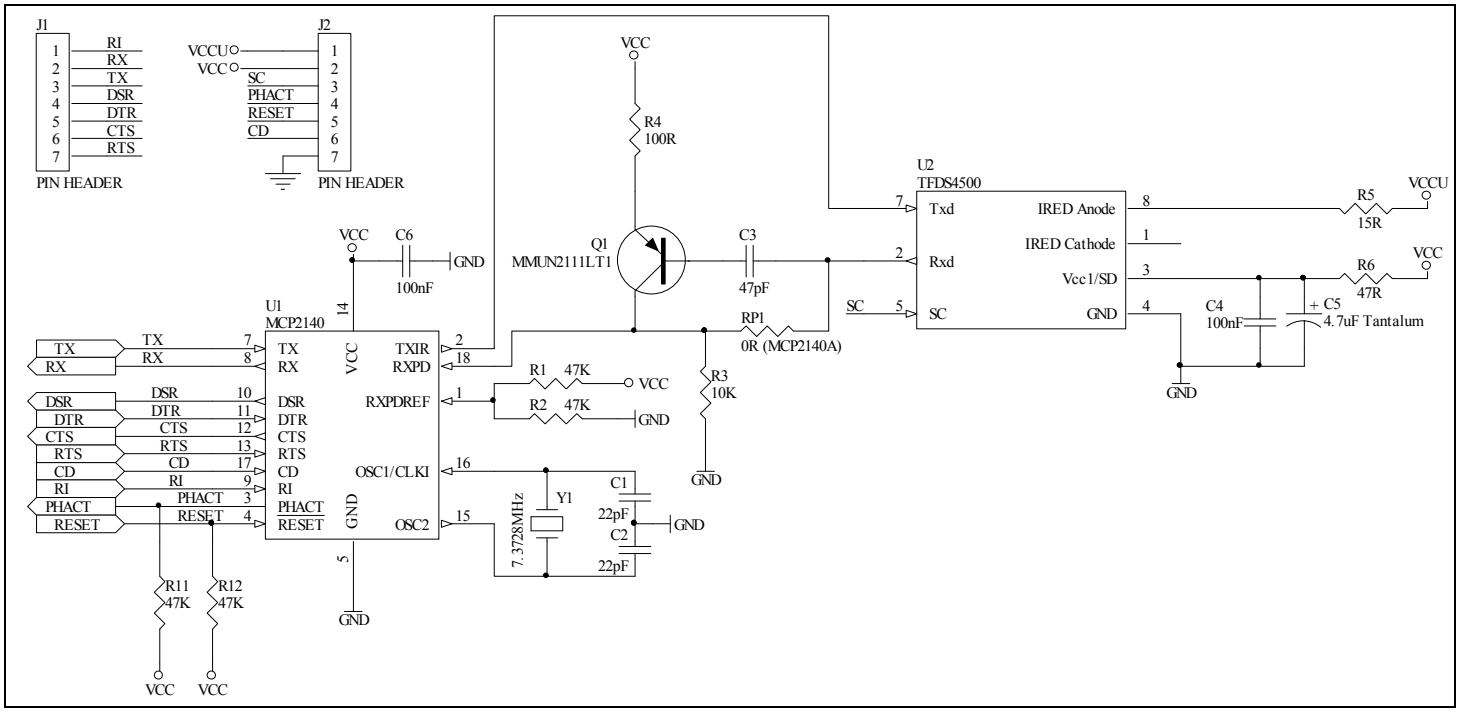


Bottom view

Pin description		
Pin Name	Pin Type	Description
RI	I	Ring Indicator. The state of this bit is communicated to the IrDA Primary Device. 1 = No Ring Indicate Present 0 = Ring Indicate Present
Rx	O	Asynchronous transmit; to Host Controller UART
Tx	I	Asynchronous receive; from Host Controller UART
DSR	O	Data Set Ready. Indicates that the MCP2140 has established a valid IrDA link with a Primary Device. This signal is locally emulated and not related to the DTR bit of the IrDA Primary Device. 1 = An IR link has not been established (No IR Link) 0 = An IR link has been established (IR Link)
DTR	I	Data Terminal Ready. Indicates that the Embedded device connected to the MCP2140 is ready for IR data. The state of this bit is communicated to the IrDA Primary Device via the IrDA DSR bit carried by IrCOMM. 1 = Embedded device not ready 0 = Embedded device Reddy
CTS	O	Clear to Send. Indicates that the MCP2140 is ready to receive data from the Host Controller. This signal is locally emulated and not related to the CTS/RTS bit of the IrDA Primary Device. 1 = Host Controller should not send data 0 = Host Controller may send data
RTS	I	Request to Send. Indicates that a Host Controller is ready to receive data from the MCP2140. This signal is locally emulated and not related to the CTS/RTS bit of the IrDA Primary device. 1 = Host Controller not ready to receive data 0 = Host Controller ready to receive data
VCCU		Unregulated power supply for the IRED
VCC		Positive supply for logic and I/O pins
SC	I	Sensitivity control. Connect to VCC for normal operation.
PHACT	OC	Protocol Handler Active. Indicates the state of the MCP2140 Protocol Handler. This output is an open collector, so an external pull-up resistor is connected. 1 = Protocol Handler is in the Discovery or NRM state 0 = Protocol Handler is in NDM state or the MCP2140 is in Low Power mode
RESET	I	Resets the Device
CD	I	Carrier Detect. The state of this bit is communicated to the IrDA Primary device via the IrDA CD bit. 1 = No Carrier Present 0 = Carrier Present
GND		Ground reference

Legend: OC = Open collector output, I = Input, O = Output

Module schematic



Electrical characteristics

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Supply voltage		V_{CC1}	4.5	5	5.5	V
Supply current pin VCC	IrDA connection stablished	I_{DD}			13	mA
Supply current pin VCCU	Transmission	I_{IRED}		0.2	0.28	mA

For additional electrical characteristics, please consult the Microchip MCP2140 datasheet.

Utilization under Microsoft Windows

- Verify that your computer has an infrared transceiver that is listed and that it is enabled: 1) Open **Device Manager**. 2) Double-click **Infrared Devices**. 3) If you have an infrared transceiver, but **Infrared Devices** does not appear in **Device Manager**, you do not have an infrared device installed.
- With the module powered on, and in visual contact with the transceiver, Windows should load the **MSIRCOMM.sys** driver and show it in **Device Manager** as '**Standard Modem over IR link**'. A new infrared icon should appear in the tray area, titled **MCP2140 Ax is in range**.
- Open the **Properties** dialog box of the '**Standard Modem over IR link**', and select the **Modem** tab. There it is shown the **Port** number available for communication with the module.