Low-Speed Plastic Optical Fiber Transceiver

SushiBits Part Number M122v2

Overview

SushiBits Low-Speed Plastic Optical Fiber Transceiver, part number M122v2, is a low-cost optical fiber interface module based on plastic optical fibers with TOSLINK connectors.

Features

This transceiver has the following features:

- Compatible with plastic optical fiber with TOSLINK connector.
- Up to 16Mbps transmission rate.
- TTL level input, CMOS level output.
- Reversible card edge host interface.

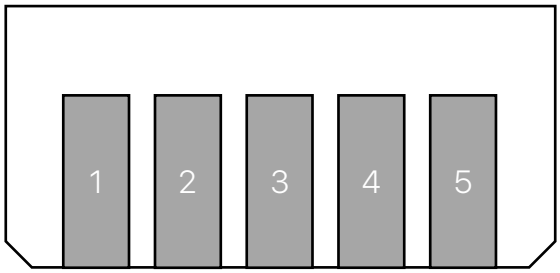
Recommended Operating Conditions

All voltages are referenced to GND pin.

SYM	PARAMETER	VALUE
V_{CC}	Core voltage	5.0V
V_{IO}	I/O voltage	3.3V or 5.0V

Pinout

This transceiver uses a host interface with a 5-pin reversible card edge connector.



PIN	NAME	TYPE	NOTES
1	V_{CC}	P	Core Power
2	TxD	I	Transmitter In
3	V_{IO}	P	I/O Power
4	RxD	O	Receiver Out
5	GND	G	Ground

Both side of the module follows the same pinout.

Limiting Values

Stress beyond the values in this section will damage the transceiver. All voltages are referenced to GND pin.

SYMBOL	PARAMETER	MIN	MAX	UNIT
V_{CC}	Core voltage	-0.5V	+5.5	V
V_{IO}	I/O voltage	-0.5V	+6.5	V
V_I	Input voltage on TxD pin	-0.5V	V_{CC} + 0.5	V
T_{STG}	Storage temperature	-30	+80	ºC
T_{OPR}	Operating temperature	0	+70	ºC

Electric-optical Characteristics

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT
V_{CC}	Core voltage	2.7	5.0	5.5	V
V_{IO}	I/O voltage	2.7	3.3 or 5.0	5.5	V
V_{IH}	High level input voltage	2.0	-	-	V
V_{IL}	Low level input voltage	-	-	0.8	V
V_{OH}	High level output voltage	V_{IO} - 0.1	-	-	V
V_{OL}	Low level output voltage	-	-	0.1	V
I_{CC}	Core current	-	11	20	mA
I_{IO}	I/O current	-	0.1	4	µA
λ_{TX}	Transmitter wavelength	640	-	670	nm
λ_{RX}	Receiver wavelength	-	650	-	nm
	Baud rate	0	-	16	MHz

