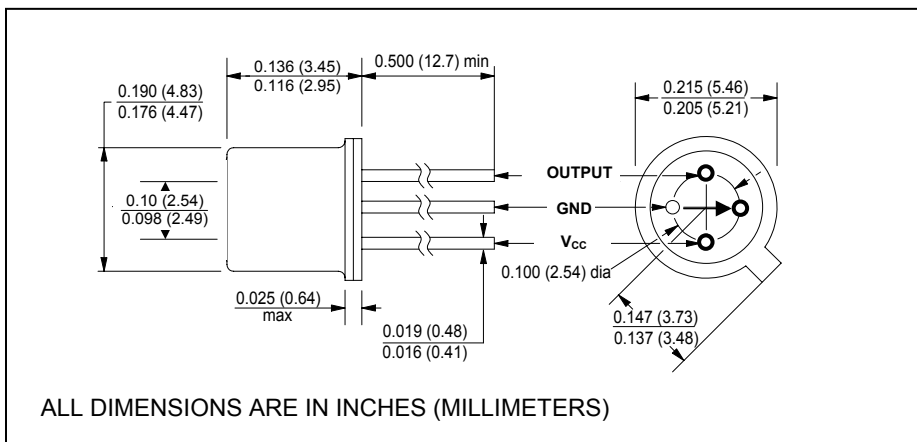


CFR533

5 Mb Fiber Optic Receiver inverter, open collector output



August, 2004



ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)

features

- Converts fiber optic signals to TTL digital output
- Single 5 V supply
- TO-46 header with flat window lens can

description

The CFR533 is intended for use in fiber-optic systems and contains an open-collector, digital output, monolithic photo-IC mounted on a TO-46 header with a flat window lens can. The output allows direct interface with TTL circuits. A microlens is mechanically centered over the photodiode.

absolute maximum ratings ($T_A = 25^\circ\text{C}$ unless otherwise stated)

storage temperature	-55°C to +125°C
operating temperature	-55°C to +125°C
lead soldering temperature ⁽¹⁾	240°C
supply voltage	6V

notes:

1. 1/16" (1.6mm) from case for 5 seconds maximum.
2. For maximum performance, a 0.1 μF capacitor must be connected between V_{CC} and GND.
3. Pulse Width Distortion (PWD) is an increase in output pulse width due to optical power, temperature and/or frequency changes and is dependent on system conditions.

definition:

inverter – output is LOW when input radiation is above the threshold level.

electrical characteristics ($T_A = 25^\circ\text{C}$, $V_{CC} = 5\text{VDC}$ unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions
V_{CC}	Supply voltage ⁽²⁾	4.5	-	5.5	V	
P_{IN} (peak)	Minimum input sensitivity	-	2.0 -27.0	4.0 -14.0	μW dBm	$\lambda_P = 850\text{nm}$ into 100/140 μm optical fiber, $f = 2.5\text{MHz}$, D.C. = 50%, PWD <10%
I_{CC}	Supply current	-	13 4.5	15 6.5	mA mA	$P_{IN} \geq 3\mu\text{W}$ $P_{IN} \leq 0.1\mu\text{W}$
V_{OL}	Low level output voltage	-	0.25	0.5	V	$P_{IN} \geq 3\mu\text{W}$, $R_L = 560\Omega$
V_{OH}	High level output voltage	2.4	4.5	-	V	$P_{IN} \leq 0.1\mu\text{W}$, $R_L = 560\Omega$
t_r	Output rise time	-	6.0	9.0	ns	$P_{IN} = 10\mu\text{W}$, $V_O = 0.5$ to 2.4V $R_L = 560\Omega$
t_f	Output fall time	-	6.0	9.0	ns	$P_{IN} = 10\mu\text{W}$, $V_O = 2.4$ to 0.5V $R_L = 560\Omega$
PWD	Pulse width distortion ⁽³⁾	-	5.0 25	10 35	% %	$P_{IN} = 3\mu\text{W peak}$ $P_{IN} = 80\mu\text{W peak}$ } $f = 2.5\text{MHz}$, D.C. = 50%

Clairex reserves the right to make changes at any time to improve design and to provide the best possible product.