

TRANSMITTER

T-41-91

The HFM2010 and HFM2025 transmitter modules are designed to provide a tri-level 50% duty cycle optical output. With data formats compatible with Manchester encoded as well as NRZ. The HFM2010, HFM2025 and HFM2110 allow the user to select required power output levels to fit the application. The HFM2025 is suggested for data rates above 10Mbps. The HFM2010 and HFM2110 are designed to interface optically with the HFM1010 receiver module. The HFM2025 can also be used with the HFM1010 receiver module at a data rate up to 10 Mbps.

All measurements are typical @850 nm and $V_{cc} = 5.0$ V.

PART NUMBER	DESCRIPTION	COUPLED POWER				DATA RATE (MBPS)	I_{cc} max. (mA)	PROP. DELAY max.(ns)	OPTICAL PULSE WIDTH		
		MIN		TYP					min.(ns)	max.	
		μ W	dBm	μ W	dBm						
HFM2010	-221	TTL Input, 10Mbps	10	-20	15	-18	0-10	240	40	40	60
	-222	TTL Input, 10Mbps	25	-16	30	-15	0-10	240	40	40	60
	-223	TTL Input, 10Mbps	50	-13	70	-11	0-10	240	40	40	60
	-224	TTL Input, 10Mbps	100	-10	120	-9	0-10	240	40	40	60
HFM2025	-221	TTL Input, 20Mbps	10	-20	15	-18	0-20	240	40	15	30
	-222	TTL Input, 20Mbps	25	-16	30	-15	0-20	240	40	15	30
	-223	TTL Input, 20Mbps	50	-13	70	-11	0-20	240	40	15	30
	-224	TTL Input, 20Mbps	100	-10	120	-9	0-20	240	40	15	30
HFM2110	-221	TTL Input, 10Mbps	10	-20	15	-18	0-10	240	40	40	60
	-222	TTL Input, 10Mbps	25	-16	30	-15	0-10	240	40	40	60
	-223	TTL Input, 10Mbps	50	-13	70	-11	0-10	240	40	40	60
	-224	TTL Input, 10Mbps	100	-10	120	-9	0-10	240	40	40	60

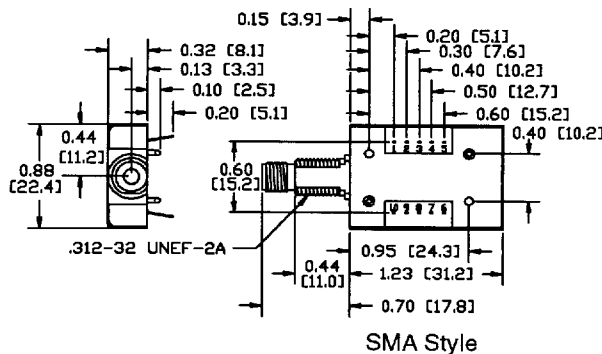
Notes: HFM2110 has a inverting bi-level optical output signal.
Tested using 100/140 micron fiber optic cable.

HFM2010 and HFM2025 OUTPUT POWER SELECTION			
P_1	P_2	P_4	% OF P_0
0	0	0	12
1	0	0	25
0	1	0	37
1	1	0	50
0	0	1	62
1	0	1	75
0	1	1	87
1	1	1	100

1 = Open 0 = Ground

PACKAGE INFORMATION - HFM2010 and HFM2025

All dimensions are in inches [millimeters].



RECEIVER

The HFM1010 receiver module is designed to operate with the HFM2010 transmitter module. The HFM1010 uses a photo diode as a detector. The HFM1010 receiver operates with 50% duty cycle optical input. This module also has a signal quality latch to ensure reliable signal detection. When the signal quality latch pin goes high, the optical signal has been lost.

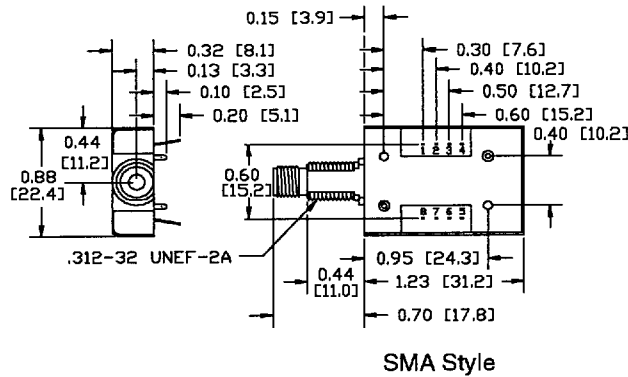
All measurements are typical @850 nm and $V_{cc}=5.0$ V.

PART NUMBER	DESCRIPTION	SENSITIVITY		DATA RATE (MBPS)	I_{cc} max. (mA)	PROP. DELAY max.(ns)	PULSE WIDTH DISTORTION (PWD)(%)
		MIN					
		μ W	dBm				
HFM1010 -221 -222	TTL OUTPUT, 10Mbit	1.0	-30	0-10	120	60	10
	TTL OUTPUT, 10Mbit	0.8	-31	0-10	120	60	10

Note: Tested using 100/140 micron fiber optic cable.

PACKAGE INFORMATION - HFM1010

All dimensions are in inches [millimeters].



SMA Style

PINOUT INFORMATION FOR TRANSMITTER AND RECEIVER MODULES										
PART NUMBER	1	2	3	4	5	6	7	8	9	10
HFM2010	P ₂	P ₁	P ₄	DS	G	G	INH	I	ENB	V
HFM2025	P ₂	P ₁	P ₄	DS	G	G	INH	I	ENB	V
HFM2110	P ₂	P ₁	P ₄	DS	G	G	INH	I	ENB	V
HFM1010	SQ	G	G	O	V	G	G	PD		

DS = DRIVER SELECT
ENB = ENABLE
G = GROUND
I = INPUT

INH = INHIBIT
O = OUTPUT
PD = PHOTODIODE BIAS
SQ = SIGNAL QUALITY

V = VCC
P₁ = POWER SELECT
P₂ = POWER SELECT
P₄ = POWER SELECT