Fibre Optics – Glass Systems — Continued

ST Detectors

Honeywell

TTL and Schmitt Receivers, 800nm

Body overall, H = 20.1, W = 12.7, D = 9.5
2 holes drilled and tapped 2.56UNC,
Fixing centres = 9.5

HFD3020-002-BBA, Pin 1 = Capacitor, Pin 2 = V_{CC}, Pin 3 = Output (TTL), Pin 4 = Case (ground)
HFD3023-002-BBA, Pin 1 = V_{CC}, Pin 2 = Ground, Pin 3 = Output (TTL), Pin 4 = Case (ground)
HFD3029-002-BBA, Pin 1 = V_{CC}, Pin 2 = Output (TTL), Pin 3 = Case (ground)

HFD3020-002-BBA is a 10Mb/s TTL output receiver with a sensitive differentiating optical receiver mounted in a ST housing for use in short distance fibre optic systems. The receiver uses a hybrid construction consisting of a PIN photodiode, Bipolar ntergrated receiver circuit with internal voltage regulation. The output allows simple and easy interfacing to standard TTL circuits.

HFD3023-002-BBA is a 5Mb/s TTL receiver with a sensitive DC coupled optical receiver mounted in a ST housing designed for use in short distance fibre optic systems. The receiver contains a monolithic IC consisting of a photodiode, dc amplifier and open schottky output transistor. The output allows simple and easy interfacing to standard TTL circuits.

HFD3029-002-BBA is a sophisticated Schmitt receiver mounted in a ST housing, combining a photodiode preamplifier, Schmitt trigger and output device all integrated on one chip together with a voltage regulator. The DC to 200Kbits/s operation makes this device ideal for many low speed data applications. Recommended load impedance range of 390 ohms to 10K ohms.

OPT399

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	50+
HFD3020-002-BBA	**624-391**					
HFD3023-002-BBA	**624-408**					
HFD3029-002-BBA	**624-410**					

VCSEL, ST Emitter

Honeywell

Vertical Cavity Surface Emitting Laser

The HFE4080-321 is a high performance 850 nm VCSEL (Vertical Cavity Surface Emitting Laser) mounted in an industry standard ST housing. Data rates from DC to greater than 2GB/s dependent on component application. The VCSEL has a low current consumption (5-15mA) which makes design and interfacing to logic gates easier. Specifically designed to connect to 50/125 or 62.5/125 micron multimode fibre.

Body overall, H = 21.5, W = 12.7, D = 9.5,
Lead Length = 10, 2 holes drilled and tapped
2.56 UNC, Fixing centres = 9.5

Absolute max. ratings:

Case operating temperature range 0°C to +70°C. Reverse voltage 5V @ 10µA,
Continuous forward current (heat sinked) 15mA

Electro optical charcteristics	Min.	Typ.	Max.
Output power I_f = 10mA	0.8mW	1.5mW	
Threshold current I_{TH}		3.5mA	6mA
Forward voltage I_f = 10mA		1.75V	2.1V
Peak wavelength I_f = 10mA DC	820nm	850nm	860nm
Spectral bandwidth		0.5nm	
Rise and fall times T_r, T_f (prebias above threshold)		100ps	400ps
Analogue bandwidth I_f = 10mA DC		6GHz	

Caution: The VCSEL is a laser and should be treated as a potential eye hazard if handled incorrectly

OPT394

Mftrs. List No.	Order Code	Price Each 1+	5+	10+	25+	50+
HFE4080-321	**655-089**					

High Power SMA Emitter, 850nm

FIBRE DATA

Body overall L = 16.3, W = 12.7
2 holes drilled
and tapped 2.56 UNC

Recommended panel
hole size = 2.3 dia
2 holes on 9.5 fixing centres
Lead length = 9

Connections: Red sleeve = Anode, Black sleeve = Cathode, No sleeve = Ground

High speed GaAlAs infra-red emitter designed for optical communications systems, compatible with FSMA PIN diode or other FSMA detectors, and 50/125µm and 200/250µm glass fibre FSMA terminated leads. It features a very high output launch power, typically 700µW into 200/250µm fibre at 100mA.

The plastic emitter is for PCB mounting with 9mm SMA connection.Ω

FOR SUITABLE DETECTOR SEE ORDER CODE 179-132 **PAGE 258**

OPT528

Mftrs. List No.	Order Code	Price Each 1+	10+	25+
H22E-4020IR	**179-144.**			

SMA Connectors

FIBRE DATA

L = 23.5, Nut = 9.6A/F

In-line connector for FSMA connected leads. The number of terminated glass fibre leads that can be connected together is limited by the total attenuation of the optical link. Supplied with nut to enable use as single hole fixing bulkhead connector.

Coupling loss (typ.): 2.0dB (50/125µm fibre), 1.5dB (200/250µm fibre), 1.5dB (1mm polymer fibre)

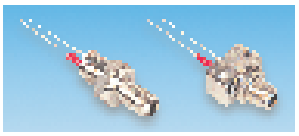
OPT529

Mftrs List No	Order Code	Price Each 1+	10+	20+
FDC20FSMA	**179-148.**			

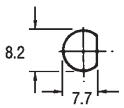
Fibre Optics – Universal System

SMA Emitters and Detectors

FIBRE DATA



Panel cut-out



Panel, Rear Fitting
Body overall L=20.6
Nut=11 A/F

PCB
Body overall L = 16.3, W = 12.7
2 holes drilled
and tapped 2.56 UNC

Single hole type

PCB type recommended panel hole size = 2.3 dia. 2 holes on 9.5 fixing centres. Lead length = 21

Connections: Emitters: Red sleeve – Anode. Detectors: Black sleeve – Anode

Universal 9mm FSMA emitters and detectors are suitable for use with both 1mm polymer fibre and 200/250µm glass fibre cables. This enables low cost polymer cable to be used over shorter distances with the same emitters and detectors as used with 200/250µm cable over longer distances.

The PIN diode photodetectors have 1mm square active area permitting collection of light with high efficiency for all fibres up to 1000µm (1mm) core size, and can be used for frequencies up to and in excess of 100MHz. The spectral range of sensitivity is 400 to 1100nm.

The emitters and detectors are both available in a choice of mounting styles with SMA connection. All have full epoxy primary encapsulation.

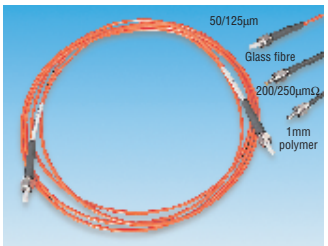
OPT522

Mounting	Order Code	Price Each 1+	10+	25+
Emitters				
Panel, rear fitting	**179-126.**			
PCB	**179-128.**			
Detectors				
Panel, rear fitting	**179-130.**			
PCB	**179-132.**			

Fibre Optic – Teminated Optical Leads

50/125µm glass, 200/230µm glass, 1mm polymer

FIBRE DATA



A range of fibre optical leads, terminated with 9mm FSMA connectors compatible with FSMA transmitters and receivers.

Type	Core Dia.	Cladding Dia.	Overall Dia.
50/125µm glass	0.050	0.125	2.5
200/230µm glass	0.200	0.250	3.2
1mm polymer	1.0	—	2.2

OPT521

Length	Order Code	Price Each 1+	5+	10+	25+
50/125µm Glass Fibre					
2m	**179-088.**				
5m	**179-089.**				
10m	**178-926.**				
20m	**.178-927.**				
100m	**178-930.**				
200/230µm Glass Fibre					
2m	**595-548.**				
5m	**595-550.**				
10m	**595-561.**				
1mm Polymer					
1m	**179-097.**				
2m	**179-098.**				
5m	**179-099.**				

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