T-41-53

BT&D TECHNOLOGIES

PDT1X4X
PIGTAILED PIN PHOTODIODES

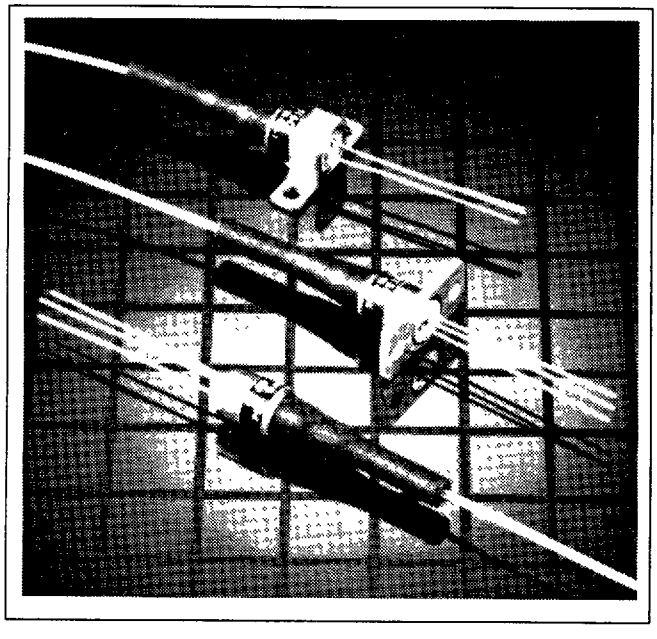
Features:

- Variety of flange/pinout options
- Fiber Pigtail Options
- Compact Package
- High Reliability Planar InGaAs PIN Photodiode
- High Responsivity

Applications:

- Instrumentation
- O-E Convertors
- Single and Multimode Fiber Communications Systems
- Data Communications Receivers
- FDDI

PDT



The PDT range of products includes a variety of compact fiber pigtailed devices designed for wide operating temperature low cost applications such as Fiber in the Loop. The planar InGaAs photodiodes are manufactured using MOVPE growth technology and give low leakage and high responsivity performance with excellent reliability.

The construction of the devices includes a hermetically sealed photodiode and an actively aligned fiber pigtail and is designed to be compatible with the environmental requirements of the Bellcore TA-TSY-000983 document.

The product range includes a variety of pinout, fiber type and package mounting bracket options designed to match the majority of offerings in the marketplace. If the specific arrangement or performance you require is not listed, please contact BT&D as our highly flexible design and manufacturing processes allow both physical and electro-optic customisation to suit your needs.

PDT PIGTAILED PHOTODIODE SPECIFICATIONS

ABSOLUTE LIMITING RATINGS

Absolute (limiting) ratings mean that no catastrophic damage will occur if the product is subjected to these ratings for short periods, provided each limiting parameter is in isolation and all other parameters have values within the performance specification. It should not be assumed that limiting values of more than one parameter can be applied to the product at the same time.

Parameter	Symbol	Minimum	Maximum	Units
Reverse Voltage	Vr	-	20	V
Reverse Current	Ir	-	1	mA
Forward Voltage	Vf	-	1	V
Forward Current	If	-	5	mA
Power Dissipation	-	-	50	mW
Operating Temperature	Tc	-40	85	°C
Storage Temperature	Ts	-40	85	°C
Soldering - 10 secs	-	-	260	°C
Fiber Pull	-	-	10	N

PERFORMANCE SPECIFICATIONS

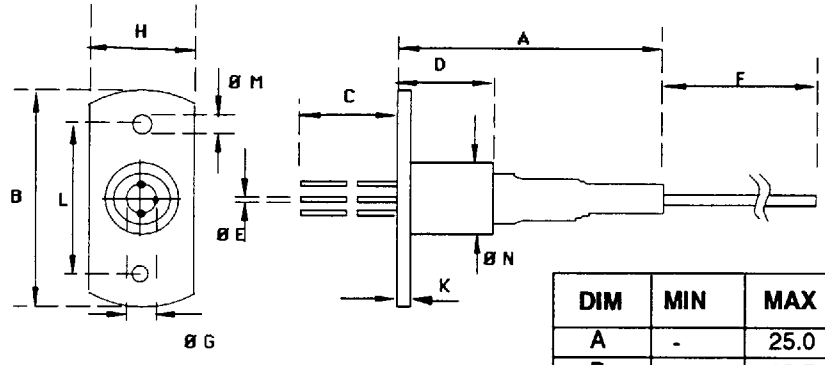
Parameter	Symbol	Test Conditions: Unless otherwise stated Vr = 5V, Tc = 25°C	PDT134X		PDT144X		Units
			MIN	MAX	MIN	MAX	
Dark Current	Id		-	1	-	1	nA
		Tc = 85°C	-	50	-	50	nA
Reverse Breakdown Voltage	Vbr	Ir = 10μA	35	-	35	-	V
Capacitance	C	1 MHz	-	1.1	-	1.7	pF
Responsivity	R	λ = 1300nm	0.7	-	0.7	-	A/W
Operating Wavelength	λ	80% points	1200	1650	1200	1650	nM
Small Signal Bandwidth	Bw		3	-	1.5	-	GHz
Rise/Fall Times	τr/τf		-	0.25	-	0.5	nS

FIBER PIGTAIL: Tight jacketed, self-mode stripping, multi mode fiber

Parameter	Minimum	Maximum	Units
Length	1.0	-	m
Core diameter	47	53	μm
Cladding Diameter	122	128	μm
Concentricity error	-	8	%
Secondary Jacket Diameter	0.8	1.0	mm

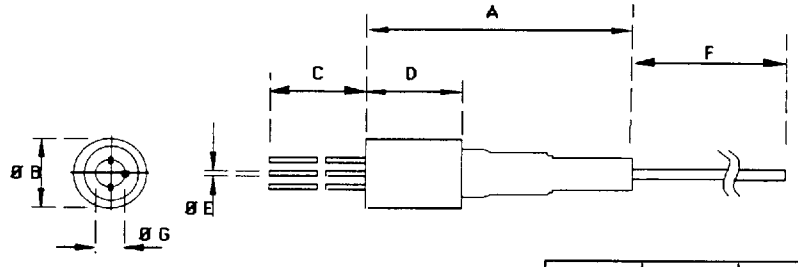
PDT MECHANICAL OUTLINE OPTIONS - Dimensions in mm

PDT1X4X-A



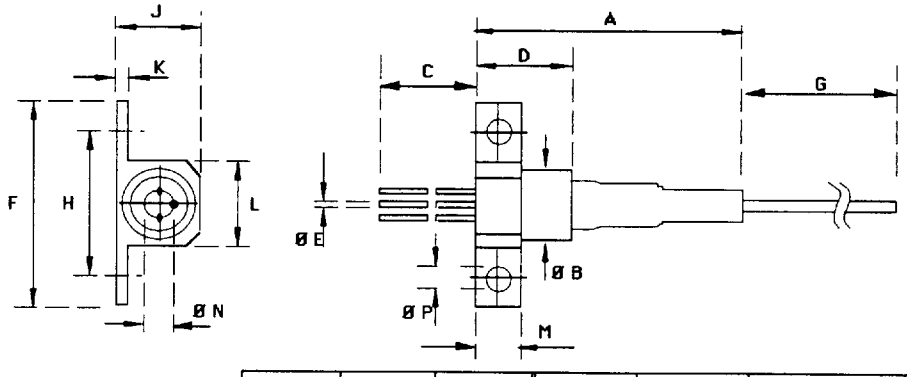
DIM	MIN	MAX	DIM	MIN	MAX
A	-	25.0	ØG	-	2.54 NOM
B	-	19.5	H	-	9.5
C	12.0	-	J	-	2.4
D	-	9.5	K	-	2.0
ØE	0.41	0.47	L	13.35	13.55
F	1000	-	ØM	2.1	2.4
			ØN	-	6.25

PDT1X4X-B



DIM	MIN	MAX	DIM	MIN	MAX
A	-	25.0	ØE	0.41	0.47
ØB	-	6.25	F	1000	-
C	12.0	-	ØG	-	2.54 NOM
D	-	8.5		-	

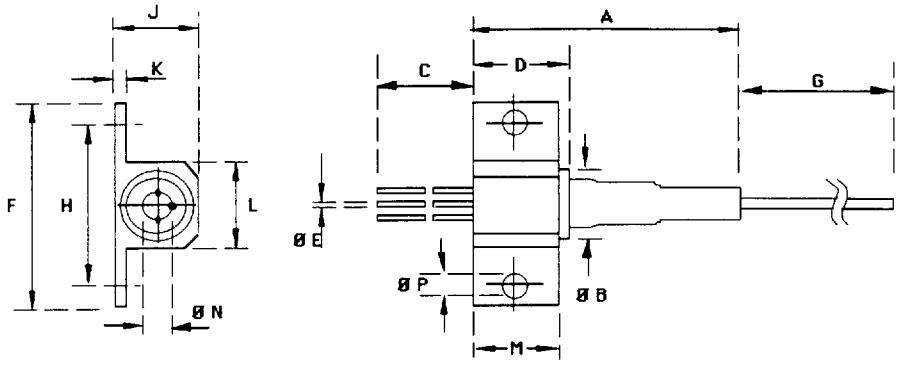
PDT1X4X-D



DIM	MIN	MAX	DIM	MIN	MAX	DIM	MIN	MAX
A	-	25.0	ØE	0.41	0.47	K	0.9	1.1
ØB	-	6.25	F	-	18.0	L	-	7.5
C	12.0	-	G	1000	-	M	3.8	4.2
D	-	9.5	H	-	12.7 NOM	ØN		2.54 NOM
			J	-	7.5	ØP	2.1	2.4

PDT MECHANICAL OUTLINE OPTIONS - Dimensions in mm

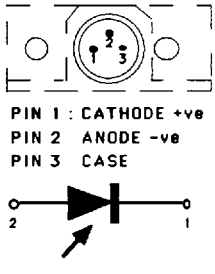
PDT1X4X-G



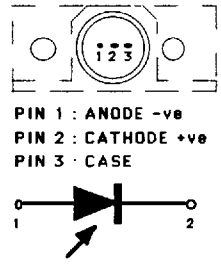
DIM	MIN	MAX	DIM	MIN	MAX	DIM	MIN	MAX
A	-	25.0	ØE	0.41	0.47	K	0.9	1.1
ØB	-	6.25	F	-	18.0	L	-	7.5
C	12.0	-	G	1000	-	M	7.5	7.7
D	-	9.5	H	13.9	14.1	ØN		2.54 NOM
			J	-	7.5	ØP	2.1	2.4

PDT ELECTRICAL PIN-OUTS

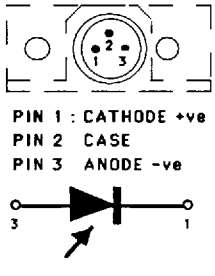
PDT1X41



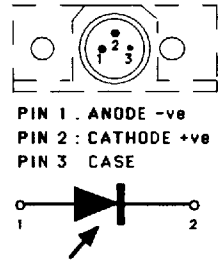
PDT1X42



PDT1X46



PDT1X47



ORDERING INFORMATION

PDT 1 X 4 X - X X - X X

- Connector Type:
  FP = FC/PC
  ST = ST™
  SC = SC
  DN = DIN
  BI = Biconic
  D4 = D4
  SF = Superpolish FC/PC
- TO to Mount Connection:
  I = Isolated (Default if not specified)
  S = Shorted
- Flange Type:
  A = 2 hole Panel mount, 13.4mm between centers
  B = Barrel
  D = 2 hole PCB mount, 12.7mm between centers
- Pin Out:
  Options shown on previous page.
- Device Type:
  3 = 50µm Photodiode
  4 = 90µm Photodiode
- Fiber Type:
  1 = 50/125 Fiber
  Options available for single mode and 62.5/125 fibers

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