

Dual Window Coupler (DWC)

Dual window coupler (DWC) is built by asymmetric coupling technique. The operating bandwidth of this normal coupler is expanding to $\pm 40\text{nm}$, and the ultra broadband coupler is expanding to $\pm 80\text{nm}$. The DWC coupler has the same coupling ratio on both 1310nm and 1550nm communication windows, and with low excess loss and low PDL. DWC couplers are widely used for communication systems, CATV, and FTTH.

Key Features

- Low excess loss
- Low PDL
- Three operating windows
- High stability and reliability

Applications

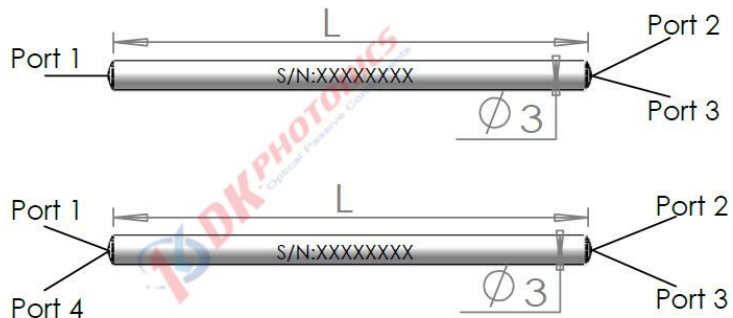
- Optical communication systems
- CATV
- FTTH



Package Dimension

Configuration	1×2 or 2×2		
Fiber lead length	1 meter, others on request		
Fiber type	250μm bare fiber	900μm loose	900μm/2mm/3mm
Dimensions (Φ×L) (mm)	Φ3.0×54	Φ3.0×54	90×20×10mm

*Other package dimensions can be made on customer request.



*Due to ongoing design improvements, the package size is subject to change. Please contact DK Photonics for confirmation if you have special requirements.

For more Info

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Performance Specifications

Parameter	Unit	Normal		Ultra Broadband	
		P	A	P	A
Grade	-	P	A	P	A
Operating wavelength	nm	1310 and 1550			
Operating bandwidth	nm	± 40		± 80	
Typical excess loss	dB	0.07	0.10	0.07	0.10
50/50	dB	≤3.6	≤3.8	≤3.8	≤4.0
45/55	dB	≤4.2/3.2	≤4.4/3.4	≤4.5/3.3	≤4.7/3.5
40/60	dB	≤4.7/2.7	≤4.9/2.9	≤5.0/2.8	≤5.2/3.0
35/65	dB	≤5.4/2.4	≤5.7/2.6	≤5.8/2.5	≤6.1/2.7
33/67	dB	≤5.7/2.2	≤6.0/2.4	≤6.1/2.3	≤6.4/2.5
30/70	dB	≤6.0/1.9	≤6.3/2.1	≤6.4/2.0	≤6.7/2.2
Insertion loss	dB	≤7.0/1.7	≤7.3/1.9	≤7.3/1.7	≤7.7/1.9
25/75	dB	≤7.9/1.3	≤8.4/1.4	≤8.3/1.3	≤8.7/1.5
20/80	dB	≤9.5/1.0	≤10.0/1.2	≤9.6/1.0	≤10.1/1.2
15/85	dB	9.20~11.20/≤0.75	8.80~11.40/≤0.8	8.80~11.40/≤0.8	8.75~11.45/≤0.8
10/90	dB	12.05~14.15/≤0.4	11.60~14.60/≤0.5	11.60~14.60/≤0.5	11.50~14.70/≤0.5
5/95	dB	14.10~16.50/≤0.35	13.60~17.05/≤0.45	13.60~17.05/≤0.45	13.45~17.15/≤0.45
3/97	dB	15.75~18.45/≤0.3	15.15~19.00/≤0.4	15.15~19.00/≤0.4	14.95~19.20/≤0.4
2/98	dB	18.60~21.60/≤0.25	17.95~22.25/≤0.35	17.95~22.25/≤0.35	17.60~22.55/≤0.35
1/99	dB				
PDL	dB	≤0.15	≤0.20	≤0.20	≤0.20
Directivity	dB	≥55			
Maximum Power Handling	W	2			
Operating temperature	°C	-40 ~ +85			

1. Above specification are for device without connector, and may change without notice. All parameters are tested at room temperature.
2. Other specifications can be made on customer request.
3. For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower. The pass optical power is 2 W only for connector added.
4. If there is pulse application, please be sure to inform us of pulse energy and peak power.
5. Insertion Loss around 1383nm (water peak) is counted in the specifications above.

Order information P/N: FBTC-①-②-③-④-⑤-⑥-⑦-⑧-⑨-⑩

When you inquire, please provide the correct P/N number according to our ordering information, and attach the appropriate description would be better. If need any connector, we do not recommend choosing a 250μm bare fiber pigtail.

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
Type	Grade	Port	Wavelength	Coupling Ratio (%)	Fiber Type	Pigtails Diameter	Fiber Length	Connector	Package
DWC	P: P Grade A: A Grade	102:1x2 202:2x2	N1315: 1310&1550± 40nm U1315: 1310&1550± 80nm	50:50/50 40:40/60 30:30/70 20:20/80 10:10/90 05:5/95 02:2/98 01:1/99 XX: Others	S28:SMF-28 X:Others	25:250μm 90:900μm 20:2.0mm 30:3.0mm XX: Others	05:0.5m 10:1.0m 15:1.5m XX: Others	00:None FP: FC/PC FA: FC/APC SP: SC/PC SA: SC/APC ST: ST/PC LP: LC/PC LA: LC/APC XX: Others	3.0x54 90×20×10

Part Number Example: FBTC-DWC-P-202-N1315-01-S28-25-10-00-3.0x54

Description: 2x2 dual window coupler, 1310&1550± 40nm, P grade, +/-40nm bandwidth, 1/99 coupling ratio, SMF-28e fiber, with bare fiber, 1.0m length fiber pigtails, without connector. Φ3.0X54mm package.

Ordering Information for Custom Parts

If you need to customize other specifications, please provide detailed description for your requirement.