

Doped Fiber Pump and Signal Combiner (N+1)x1

Key Features

- High Power Transfer Efficiency
- Low signal insertion loss
- Custom Configurations Available

Doped Fiber Pump Combiner, also called active pump combiner, is built by coupling pump fiber power directly into doped fiber (say Yb-doped, or Er/Yb doped ect), the signal input fiber is passive fiber, and the splice point is put inside combiner. Normally customer splices doped fiber with combiner output passive fiber, which will cause backward scattering. Active combiner makes customer no need to splice again outside combiner and will get very good isolation between backward light and pump lasers.

The structure has 2 advantages compare with normal combiner:

- 1) Customer only need splice one time with doped fiber at combiner signal side.
- 2) The coupling region is behind splice point, the isolation (backward signal to pump) is much lower than normal passive combiner, so that protect pump LD burning.

Applications

- Fiber Laser
- Fiber Amplifiers
- Fiber instrument



For more Info

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Package Information

Package Type	P1	P2	P3	P4
Dimensions (mm)	Φ4.0x60	65x12x7	80x12x8	100x15x10

*Due to ongoing design improvements, the package size is subject to change. According to the different configuration, power handling, and fiber core diameter, we will choose the appropriate package size. Please contact DK Photonics for confirmation.

*Device package must be mounted onto heat sink (active cooling is suggested) with thermal paste for high power.



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General Configuration for Doped Fiber Pump Combiner (2+1)x1

Type	Pump fiber	Input signal	Output fiber (active)	Max. Signal IL	Pump Effi.	Max. Power Handling
(2+1) x1	105/125 0.15 or 0.22	6/125 SC or DC	6/125 DC	0.5dB	90%	50W/leg
(2+1) x1	105/125 0.15 or 0.22	8/125 SC or DC	8/125 DC	0.5dB	90%	50W/leg
(2+1) x1	105/125 0.15 or 0.22	10/125 SC or DC	10/125 DC	0.5dB	90%	50W/leg
(2+1) x1	105/125 0.15 or 0.22	12/125 SC or DC	12/125DC	0.5dB	90%	50W/leg
(2+1) x1	105/125 0.15 or 0.22	20/125 SC or DC	20/125 DC	0.5dB	90%	50W/leg
(2+1) x1	105/125 0.15 or 0.22	25/250 SC or DC	25/250 DC	0.5dB	93%	50W/leg
(2+1) x1	105/125 0.15 or 0.22	30/250 SC or DC	30/250 DC	0.5dB	93%	50W/leg

Remark:

* Other configuration and higher power handling can be customized. PM fiber also can be customized.

* All combiners default with bare fiber, 0.8m length of pigtail, please contacts us for special request.

* Output fibers are doped double clad fiber.

Order information P/N: DFPSC (DFPMPSC)-A-B-C-D-E-F-G

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.

A	B	C	D	E	F	G
Port	Signal Wavelength	Power per Multimode Input	Input Pump Fiber Type	Input signal Fiber Type	Output Fiber Type	Fiber length
21: (2+1)X1 61: (6+1)X1	30:1030nm 64:1064nm 15:1550nm 2000:2000nm	05:5W 10:10W 25:25W 50:50W XX: Other	XXX (fiber code)	XXX (fiber code)	XXX(fiber name)	20:2.0m 30:3.0m 40:4.0m

Part Number Example: DFPSC-21-30-30-105/125/22-15/130/08D-D15/130/08D-10

Description: (2 + 1) x 1 Doped Fiber Pump and Signal Combiner, 1030nm signal wavelgnth, 30W per pump, 105/125µm, 0.22NA input pump fiber, passive 15/130µm, 0.08/046NA input signal fiber, doped 15/130µm, 0.08/046NA output fiber, 1.0m input fiber length, 3.0m output doped fiber length.

Ordering Information for Custom Parts

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