## Polarization-Maintaining Optical Circulator (3 \& 4 port)

ACP's polarization maintaining optical circulator utilizes proprietary designs and metal bonding micro optics packaging. It provides low insertion loss, broad band high isolation, high extinction ratio, excellent temperature stability and epoxy free optical path. It can be used for wavelength add/drop, dispersion compensation, and EDFA applications.

## FEATURES

Low Insertion Loss
Wide Band, High Isolation
High Extinction Ratio
Compact In-line Package
High Stability and Reliability
Epoxy Free Optical Path

## APPLICATION

Optical Amplifier
Metro Area Network
Wavelength Add/Drop
Dispersion Compensation
Bi-directional Communication

PERFORMANCE SPECIFICATIONS

| Parameter | Specifications |  |  |
| :---: | :---: | :---: | :---: |
| Number of Ports | 3 |  | 4 |
| Operating Wavelength | 1310 or 1550nm |  | 1310 or 1550nm |
| Bandwidth | $\pm 20 \mathrm{~nm}$ |  | $\pm 20 \mathrm{~nm}$ |
| Grade | P | A | P |
| Configuration | P1-P2 and P2-P3 |  | P1-P2, P2-P3 and P3-P4 |
| Typical Peak Isolation | 40dB |  | 40 dB |
| Minimum Isolation* | $\geq 25 \mathrm{~dB}$ |  | $\geq 30 \mathrm{~dB}$ |
| Insertion Loss (Typ.) | 0.60 dB | 0.80 dB | 1.0 dB |
| Insertion Loss (Max) | $\leq 0.80 \mathrm{~dB}$ | $\leq 1.0 \mathrm{~dB}$ | $\leq 1.3 \mathrm{~dB}$ |
| Return Loss | $\geq 55 \mathrm{~dB}$ | $\geq 55 \mathrm{~dB}$ | $\geq 55 \mathrm{~dB}$ |
| Extinction Ratio* | $\geq 20 \mathrm{~dB}$ | $\geq 20 \mathrm{~dB}$ | $\geq 16 \mathrm{~dB}$ |
| Channel Crosstalk | $\geq 50 \mathrm{~dB}$ | $\geq 50 \mathrm{~dB}$ | $\geq 50 \mathrm{~dB}$ |
| Optical Power | $\leq 500 \mathrm{~mW}$ |  | $\leq 300 \mathrm{~mW}$ |
| Operating Temperature | 0 to $+70^{\circ} \mathrm{C}$ |  |  |
| Storage Temperature | - 40 to +85 |  |  |
| Package Dimensions | $\begin{array}{r} A=\Phi 5.5 \times L \\ \Phi 5.5 \times L \\ M=\Phi 5.5 \times L \end{array}$ | Both axes Slow or fa Both axes |  |

Note:
*Extinction ratio is guaranteed from $10 \sim 50^{\circ} \mathrm{C}$.

1. The PM fiber and the connector key are aligned to the slow axis.
2. ER value applies to fiber $\leq 0.75 \mathrm{~m}$. Increased fiber length will decrease ER.
3. For each connector, IL will be 0.3 dB higher, RL 5 dB lower, and ER 2 dB lower.

All values referenced are without connector.

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## MECHANICAL DIMENSIONS

## A Package



M Package


PORT CONFIGURATIONS


ORDERING INFORMATION

| PMOC | Port | Grade | Operating Wavelength | Package | Fiber Type | Pigtail Style | Fiber Length | In <br> Connector | Out <br> Connector | Working axis |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $3=3$ Port | $\mathrm{P}=\mathrm{P}$ Grade | $31=1310 \mathrm{~nm}$ | A=Apackage | M=PM1310 | 1=Bare fiber | $07=0.75 \mathrm{~m}$ | $0=$ None | $0=$ None | S=Slow axis working |
|  | $4=4$ Port | A $=$ A Grade | $55=1550 \mathrm{~nm}$ | $\mathrm{M}=$ M package | $\mathrm{N}=\mathrm{PM} 1550$ | 2=900um | $10=1.0 \mathrm{~m}$ | 1 = FC/APC | 1 = FC/APC | F=Fast axis working |
|  |  |  |  |  |  | loose tube | . | $2=F C / P C$ | $2=F C / P C$ | $\mathrm{B}=$ Both axes working |
|  |  |  |  |  |  |  |  | 3 = SC/APC | 3 = SC/APC |  |
|  |  |  |  |  |  |  | . | 4 =SC/PC | 4 = SC/PC |  |
|  |  |  |  |  |  |  |  | $5=$ ST | 5 = ST |  |
|  |  |  |  |  |  |  |  | 6 = LC/UPC | 6 = LC/UPC |  |
|  |  |  |  |  |  |  |  | 7 = LC/APC | 7 = LC/APC |  |

