

INTEGRATED TAP MONITOR ARRAYS

ITMA Series

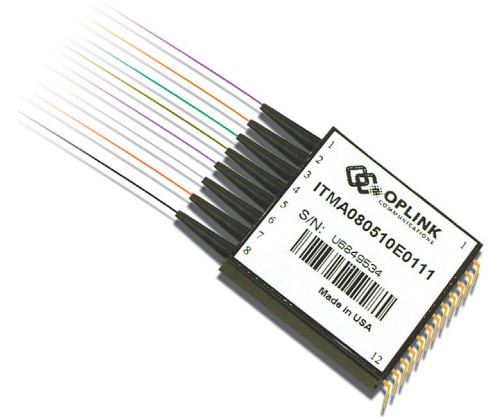
Product Description

Oplink's Integrated TAP Monitor Array (ITMA) is a compact, multi-channel power-monitoring device. It increases module design flexibility and efficiency by significantly reducing the number of assembly components and facilitating fiber management.

ITMA integrates the functionality of an optical coupler and a photodiode while delivering low insertion loss and low dark current with high temperature stability over a wide operating wavelength range.

Easily mounted on a PCB, Oplink's standard 12/14-pin package provides power monitoring for up to ten channels. Applications include DWDM channel power monitoring, optical network switching/protection monitoring, re-configurable optical add/drop multiplexers, and gain/attenuation monitoring in amplifier systems.

Oplink can provide customized designs to meet specialized feature applications. Also, Oplink offers modular assemblies that integrate other components to form a full function module or subsystem.



Performance Specification

| Parameters | | | Specification | | Unit |
|--|--|----------------|----------------|-----------|------|
| Operating Wavelength Range | | | 1260 ~ 1360 | 1520~1620 | nm |
| Through | Insertion Loss (@ λ_{op} , Top, All SOP, Exclude Connectors) | 2% | < 0.4 | | dB |
| | | 5% | < 0.6 | | |
| | | 10% | < 0.9 | | |
| | Polarization Dependent Loss | | < 0.05 | | dB |
| Return Loss | | > 45 | | dB | |
| Tapped Monitoring | Responsivity (Relative to Nominal Power at Input Port) | 2% | 10 ~ 23 | 14 ~ 26 | mA/W |
| | | 5% | 26 ~ 59 | 36 ~ 65 | |
| | | 10% | 52 ~ 110 | 70 ~ 120 | |
| | Responsivity Temperature Dependence (@1310nm or 1550nm) | | < 0.3 | | dB |
| Responsivity Polarization Dependence | | < 0.1 | | dB | |
| PD | PD Dark Current (@ -5V bias, 70°C) | 0.5G Bandwidth | < 10 | | nA |
| | | 2.0G Bandwidth | < 2.5 | | |
| | Reverse Voltage | | < 20 | | V |
| Forward Current | | < 10 | | mA | |
| Conditions | Input Optical Power | 2% | < 21 | | dBm |
| | | 5% | < 16 | | |
| | | 10% | < 12 | | |
| | Operating Temperature Range (<85%RH, Non-condensing) | | -5 | +70 | °C |
| Storage Temperature Range (<85%RH, Non-condensing) | | -40 | +85 | °C | |
| Fiber Type | | | Corning SMF-28 | | |

Features

- ◆ Standard, 12/14-pin Package Easily Mounted on a PCB
- ◆ 4, 8 and 10 Channel Configurations
- ◆ Wide Operating Wavelength Range
- ◆ Various Tap Ratio Available
- ◆ Low Insertion Loss and PDL
- ◆ Low Dark Current
- ◆ High Temperature Stability

Applications

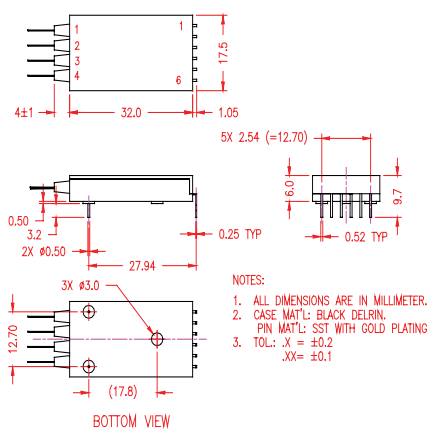
- ◆ DWDM Channel Monitoring
- ◆ Optical Network Switch/Protection Monitoring
- ◆ Re-configurable Optical Add/Drop Multiplexers
- ◆ Gain/Attenuation Monitoring in Amplifier Systems
- ◆ EDFAs and Raman Amplifiers

* Excluding connectors

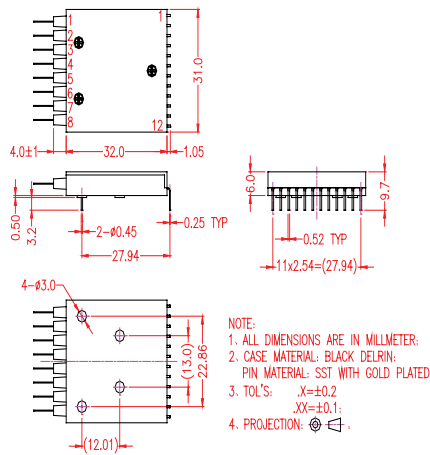
** The maximum IL is under all states of polarization and within the full operating temperature and wavelength ranges specified

Mechanical Drawing / Package Dimensions (dimension in mm)

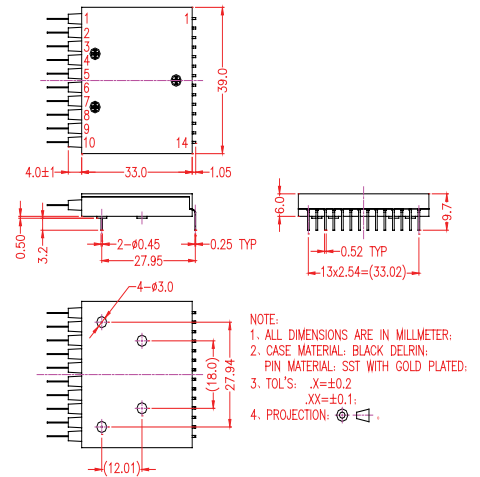
1) 4-ch ITMA



2) 8-ch ITMA



3) 10-ch ITMA



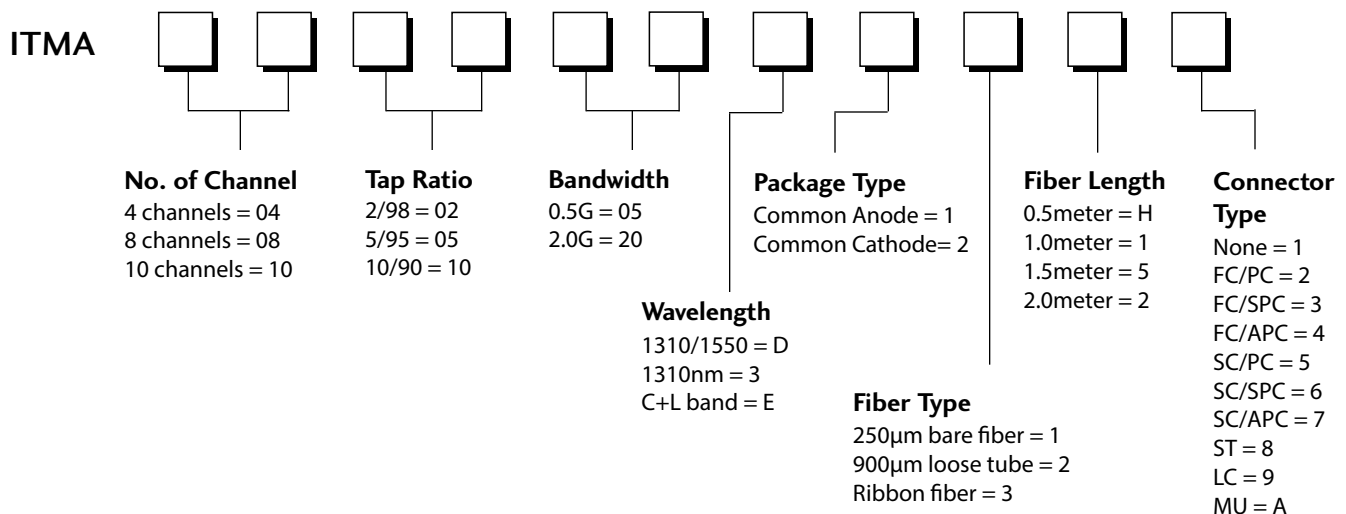
| Electrical Pin Assignment | | |
|---------------------------|----------------------------|--------------------------|
| Pin#: | Common Cathode Assignment | Common Anode Assignment |
| Pin1: | Common Cathode for Ch1 & 2 | Common Anode for Ch1 & 2 |
| Pin2: | Anode Ch1 | Cathode Ch1 |
| Pin3: | Anode Ch2 | Cathode Ch2 |
| Pin4: | Common Cathode for Ch3 & 4 | Common Anode for Ch3 & 4 |
| Pin5: | Anode Ch3 | Cathode Ch3 |
| Pin6: | Anode Ch4 | Cathode Ch4 |

| Electrical Pin Assignment | | |
|---------------------------|----------------------------|--------------------------|
| Pin#: | Common Cathode Assignment | Common Anode Assignment |
| Pin1: | Common Cathode for Ch1 & 2 | Common Anode for Ch1 & 2 |
| Pin2: | Anode Ch1 | Cathode Ch1 |
| Pin3: | Anode Ch2 | Cathode Ch2 |
| Pin4: | Common Cathode for Ch3 & 4 | Common Anode for Ch3 & 4 |
| Pin5: | Anode Ch3 | Cathode Ch3 |
| Pin6: | Anode Ch4 | Cathode Ch4 |
| Pin7: | Anode Ch5 | Cathode Ch5 |
| Pin8: | Common Cathode for Ch5 & 6 | Common Anode for Ch5 & 6 |
| Pin9: | Anode Ch6 | Cathode Ch6 |
| Pin10: | Anode Ch7 | Cathode Ch7 |
| Pin11: | Common Cathode for Ch7 & 8 | Common Anode for Ch7 & 8 |
| Pin12: | Anode Ch8 | Cathode Ch8 |

| Electrical Pin Assignment | | |
|---------------------------|-----------------------------|---------------------------|
| Pin#: | Common Cathode Assignment | Common Anode Assignment |
| Pin1: | Common Cathode for Ch1 to 4 | Common Anode for Ch1 to 4 |
| Pin2: | Anode Ch1 | Cathode Ch1 |
| Pin3: | Anode Ch2 | Cathode Ch2 |
| Pin4: | Anode Ch3 | Cathode Ch3 |
| Pin5: | Anode Ch4 | Cathode Ch4 |
| Pin6: | Anode Ch5 | Cathode Ch5 |
| Pin7: | Common Cathode for Ch5 to 8 | Common Anode for Ch5 to 8 |
| Pin8: | Anode Ch6 | Cathode Ch6 |
| Pin9: | Anode Ch7 | Cathode Ch7 |
| Pin10: | Anode Ch8 | Cathode Ch8 |
| Pin11: | Anode Ch9 | Cathode Ch9 |
| Pin12: | Common Cathode for Ch9 & 10 | Common Anode for Ch9 & 10 |
| Pin13: | Anode Ch10 | Cathode Ch10 |
| Pin14: | Not connected | Not connected |

Ordering Information

Oplink can provide a remarkable range of customized optical solutions. For detail, please contact Oplink's OEM design team or account manager for your requirements and ordering information (510) 933-7200.



RoHS:

- ITMA is RoHS 5 compliant (RoHS permitted Lead in solder exemption is applied).
- Add "G" to the end of the above PN for RoHS 6 Requirement.