

**Formerica OptoElectronics** is a manufacturer of optical transceiver products, delivering innovative and customizable optical solutions to customers worldwide. Headquartered in Taiwan and established in 2000, Formerica has manufacturing in Taiwan, with Sales, Marketing and FAE support in North America.

**Products**    [SEARCH OUR PRODUCTS](#)

**Optical Transceiver Modules:**

- Data rates – 155M, 1G, 10G, 16G, 25G, 40G, 100G, 200G\*, 400G\* (\* Available in Q420)
- Form factors – 1x9 SC/ST, XFP, SFF, SFP, SFP+, QSFP, QSFP+, QSFP28, QSFP-DD\*, QSFP56\*
- Distance – 1m to 80km
- Wavelength – 850nm, 1310nm, 1550nm, CWDM, DWDM, BIDI
- Media type – Single-Mode Fiber (SMF), Multi-Mode Fiber (MMF)
- Temperature range – commercial (0~70°C), industrial (-40~85°C), extended (-20~85°C)

**Active Optical Cables (AOC):** 10G, 25G, 40G, 100G, from 1m to 100m cable length

**AOC Fanouts:** 100G QSFP28 to 4x25G SFP28, 40G QSFP to 4x10G SFP+

**Optical Bypass Modules (OBM):** 1G, 10, 40G, 100G, 2/4/8-ports modules

**Serial Digital Interface Transceivers (SDI):** 12G 10km 1T/1R, 1T, 1R, 2R, backward compatible to SD 270Mbps

**Fiber Channels:** 8G, 16G

**Transceivers**



**Active Optical Cables**



**AOC Fanouts**



**OBM**



**SDI/FC**



**Applications**

Industrial Automation & Controls	MSO/Carriers/ISP/Telecoms	5G / AI / IoT
Medical Imaging	Cloud Providers	Networking – Router/Server/Gateway
Data Center/Enterprise	Digital Broadcasting & Pro Audio/Video	Protocol Analyzer/Test & Measurement

**Why Formerica?**

**TAA (Trade Agreement Act) and NDAA (National Defense Authorization Act) Compliant –**

- TAA requires Country of Origin to be “USA” or “USA Friendly” countries, which includes Taiwan
- NDAA bans specific video surveillance camera manufacturers, SoC, systems vendors, and component suppliers from being purchased or used in US government deployments due to cybersecurity concerns.
- US Government related deployments require TAA and NDAA products or components for cybersecurity
- Formerica is TAA and NDAA compliant
- Competitors manufacture in Non-TAA compliant countries and may not be NDAA compliant

**NO CHINA TARIFF**

**Increased efficiency lowers power consumption and saves money:** cuts cooling and energy cost, lessens thermal challenge

**Formerica Headquarters**

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**Extended Temperature Range-** Offers wider operational temperature range; reduces part count and inventory, and provides higher reliability

**Lower Total Cost of Ownership-** reduced inventory & utility costs, for lowest operational expense

**Broad optical solutions beyond transceivers-** SDI & OBM are *not* offered by Finisar or Avago/FOIT

### **Compliance:**

ISO 9001, ISO 14001, TL 9000, RoHS, TAA (Made in Taiwan), NDAA

### **Design Considerations**

- *What type of APPLICATION?*
- *What DATA RATE are you running?*
- *What FORM FACTOR do you use?*
- *What transmission DISTANCE is required?*
- *What cable length is required if for AOC and AOC Fanout?*
- *What WAVELENGTH are you operating at?*
- *What are your TEMPERATURE requirements?*
- *Do you use SINGLE-MODE or MULTI-MODE (media type)?*
- *Is POWER CONSUMPTION and thermal dissipation an important issue for you?*

### **Nomenclatures for Transmission Distances and Temperature Ratings**

Distance	150m~500m	10km	40km	80km
Terminology	Short Reach	Long Reach	Extended Reach	Z Reach
Abbreviation	SX, SR, SR4	LX, LR, LR4	EX, ER	ZR

Temperature Ratings: CT/Commercial (0~70°C), IT/Industrial (-40~85°C), ET/Extended (-20~85°C)

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