



# TKS1550EMOT-30

## External Modulated Optical Transmitter 1550nm

### Product Description

TKS1550EMOT-30 is 1GHz optical transmitter based on the external modulation technology. Built-up by the high-quality DWDM DFB laser and JDSU external modulator, this transmitter successfully can be applied in DWDM optical networks, RF overlay in PON, for long distance transmission of analogue CATV and digital signals, in big metropolitan distribution networks etc. In the general, the central wavelength is 1550.12nm, but it can be order with every DWDM wavelength.

TKS1550EMOT-30 series transmitter consists of RF control module, DFB laser, optical modulator, SBS control & CSO control modules, communication/display control and power supply unit.

Automatic gain control circuit (AGC) or manual gain control circuit (MGC) amplifies the RF signal. AGC or MGC control makes the optical modulator maintain a suitable input level. Use the detected RF root-mean square (RMS)-total power to calculate the optical modulation index (OMI). In general we recommend using the AGC function, and special users can use the MGC function to adjust the CNR/CSO/CTB performance indexes.

To improve the SBS threshold, TKS1550EMOT-30 series optical transmitter adopts SBS control technology which is independent researched and developed by ourselves. The threshold value can be set up to 19dBm.



### Technical Specification

| Optical Parameters               |                         |
|----------------------------------|-------------------------|
| Optical Wavelength, nm           | 1550.12 (or specified)  |
| Side-mode Suppression Ratio, dB  | > 30                    |
| Relative Intensity Noise, dB/Hz  | < - 160                 |
| Wavelength Adjustment Range, GHz | $\pm 50$                |
| Optical Power, dBm               | 2 x 7                   |
| SBS Threshold Value, dBm         | +13 $\div$ +19          |
| Laser Linewidth, MHz             | 0.3                     |
| Electrical Parameters            |                         |
| RF Range, MHz                    | 47 $\div$ 1003          |
| RF Flatness, dB                  | $\pm 0.75$              |
| RF return loss, dB               | > 16                    |
| RF input impedance, $\Omega$     | 75                      |
| Rated input level, dB $\mu$ V    | 80                      |
| Input level range, dB $\mu$ V    | 78 $\div$ 96 (AGC mode) |
| AGC control range, dB            | - 3 $\div$ + 3          |
| MGC adjustable range, dB         | 0 $\div$ 15             |

| General Performance                       |                                       |
|-------------------------------------------|---------------------------------------|
| Optical connector                         | SC/APC, FC/APC                        |
| Operating temperature, $^{\circ}\text{C}$ | - 5 $\div$ 45                         |
| Storage temperature, $^{\circ}\text{C}$   | - 30 $\div$ + 70                      |
| Power Source Specification, V             | AC 90 $\div$ 265                      |
| Consumption, W                            | $\leq 60$                             |
| Dimension, mm                             | 483(L) $\times$ 455(W) $\times$ 44(H) |
| Total Weight, kg                          | 5.5                                   |

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