Telecoms: 850nm – 1650 nm PDKs

WAVE PHOTONICS

Telecoms Process Design Kits (PDKs)

Wave Photonics provides Telecoms-band PDKs to help customers design photonic integrated circuits faster and without requiring multiple iterations. These Telecoms PDKs are optimised on CORNERSTONE fabrication processes: Silicon Nitride (SIN) with 200 nm and 300 nm thicknesses, and Silicon-on-Insulator (SOI) with 220 nm and 340 nm thicknesses. Users can design their chips by accessing Wave Photonics' Telecoms PDKs, which support multiple wavelengths - O-band, E-band, S-band, C-band, L-band, and U-band - and over 500 components such as low-loss gratings and 90-degree optical hybrids/4x4 MMIs for coherent receivers. Wave Photonics' PDKs work seamlessly with EDA tools such as Siemens L-Edit, and GDSFactory and soon will be available in Luceda's IPKISS. All components also come with fabrication-aware scattering parameters (S-parameters). You can also have a streamlined path to a fully packaged device using the QPICPAC packaging service for Telecoms applications on multiple platforms.

Telecom/Datacom bands in Wave Photonics' PDKs

Telecom window	λ_0, $\Delta\lambda$ (nm)	Process	Fibre	Application
850nm-band	850 780-900	• SiN 300 nm • SIN 200 nm	780HP	Short-reach fiber communications, data centers, high-speed optical interconnects
O-band	1310 1260-1360	• SiN 300 nm • SiN 200 nm • SOI 220 nm • SOI 340 nm	SMF-28-1310	Short-haul transmission, low chromatic dispersion, fibre optics
E-band	1400 1360-1460	• SiN 300 nm • SiN 200 nm • SOI 220 nm • SOI 340 nm	SMF-28-1310	5G network for backhaul capacity, DWDM[1]
S-band	1490 1460-1530	• SiN 300 nm • SiN 200 nm • SOI 220 nm • SOI 340 nm	SMF-28	Optical fibre communication expansion, CWDM[2]
C-band	1550 1530-1565	• SiN 300 nm • SiN 200 nm • SOI 220 nm • SOI 340 nm	SMF-28	Long-haul and metro DWDM networks, satellite-to-ground FSO[3] links
L-band	1600 1565-1625	• SiN 300 nm • SiN 200 nm • SOI 220 nm • SOI 340 nm	SMF-28	DWDM expansion beyond C-band, long-haul networks, FSO applications
U-band	1650 1625-1675	• SiN 300 nm • SiN 200 nm • SOI 220 nm • SOI 340 nm	SMF-28	Fiber network monitoring

[1] Dense Wavelength Division Multiplexing, [2] Coarse Wavelength Division Multiplexing, [3] Free-Space Optical