

General description

General purpose optical IR bandpass filter at centre wavelength of 860nm. It is deposited on thin glass carrier.

The filter is designed as a single peak window filter for the wavelength range of 300 - 1'050nm. It is well adapted for applications with high power LED of 850nm (e.g. OSRAM SFH 4059).

Features

- Optimized for high power LED 850nm
- Single peak window filter bandpass 860nm
- Specified wave range 300 – 1'050nm
- Thin glass substrate
- Standard size
- Customer size on request
- Packaged in tape-on-reel for easy automatic assembly

Applications

- NIR sensor and camera
- TOF sensor and camera
- Light barrier

Optical data

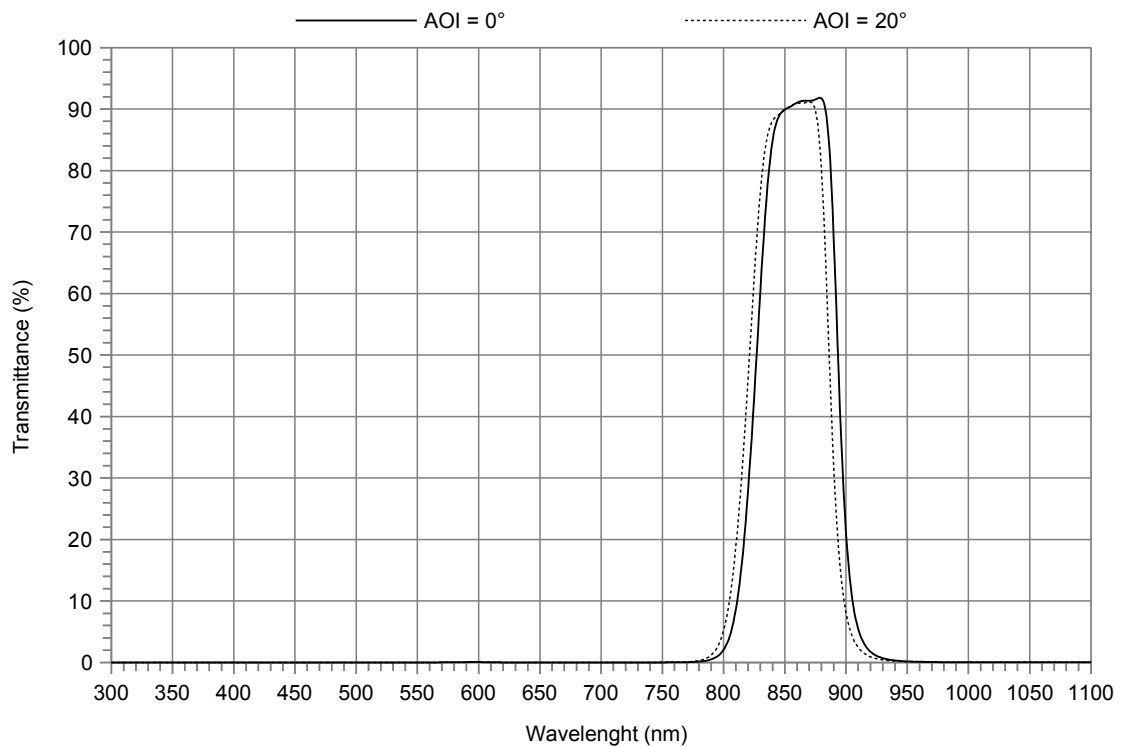



Figure 1: Transmittance spectrum

Optical data (cont.)

Symbol	Parameter	Conditions / comments	Min.	Typ.	Max.	Units
AOI	Angle of incident	Random polarized	0			deg
CWL _(45%)	Centre wavelength	@ 45% transmittance	860 ±6			nm
FWHM _(45%)	Full width at half maximum	@ 45% transmittance	65 ±10			nm
T _{avg}	Transmittance	@ 300 nm - 800 nm	≤ 0.1			%
T _{avg}	Transmittance	@ 845 nm - 875 nm	> 80			%
T _{abs}	Transmittance	@ 860 ±6 nm	> 80			%
T _{avg}	Transmittance	@ 950nm - 1'050nm	≤ 0.1			%
AOI	Angle of incident	Random polarized	0 - 20			deg
SS	Spectral shift		< 15			nm

Mechanical data (all measures in mm, )

Symbol	Parameter	Conditions / comments	Min.	Typ.	Max.	Units
	Glass		D263T ECO or equiv.			
	Length	according order information	L.L ±0.10			mm
	Width	according order information	W.W ±0.10			mm
	Thickness		0.30 ±0.05			mm
	Operating ambient temperature		-40		+85	deg C
	Relative humidity	not condensing	+5		+95	%

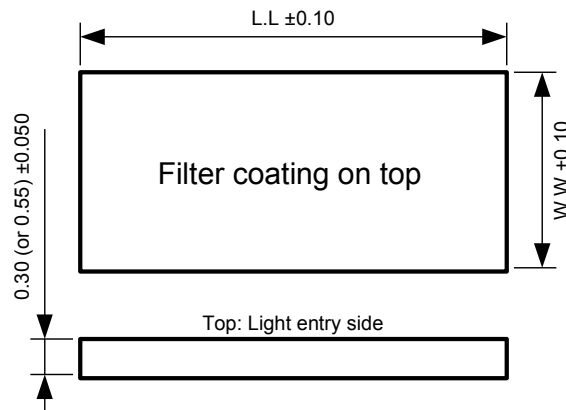


Figure 2: Mechanical dimensions (generic drawing)

Dimensions and ordering information

Part number	Type	Size	RoHS compliance	Packaging
P100 525	epc-bp860-2.0 x 2.0 x 0.3mm	1.9 x 1.9 x 0.30 mm	Yes	Reel
P100 526	epc-bp860-5.0 x 4.0 x 0.3mm	4.9 x 3.9 x 0.30 mm	Yes	Reel
P100 527	epc-bp860-8.0 x 8.0 x 0.3mm	7.9 x 7.9 x 0.30 mm	Yes	Reel

Note: Other dimensions, ordered in volumes, are available on request.

Former parts. - Not for new product developments:

Part number	Type	Size	RoHS compliance	Packaging
P100 147	epc-bp860-2.0x2.0	1.9 x 1.9 x 0.55 mm	Yes	Reel
P100 268	epc-bp860-5.0x4.0	4.9 x 3.9 x 0.55 mm	Yes	Reel
P100 088	epc-bp860-6.0x2.8	5.9 x 2.7 x 0.55 mm	Yes	Reel
P100 267	epc-bp860-8.0x8.0	7.9 x 7.9 x 0.55 mm	Yes	Reel

Packaging information (all dimensions in mm,)

Tape & reel information

The devices are packaged into embossed tapes for automatic placement systems. The tape is wound on 178mm (7 inch) reels and individually packaged for shipment. General tape-and-reel specification data are available in a separate datasheet and indicate the tape size for various package types. Further tape-and-reel specifications can be found in the Electronic Industries Association EIA-Standard 481-1, 481-2, 481-3.

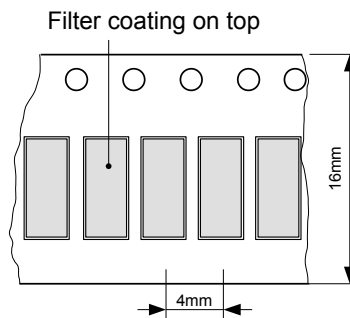


Figure 3: Tape dimensions (generic drawing).
Parts are placed with filter coating on top side

Reel type	Tape size	Pieces / reel	Packaging method
7 inch	16 mm	1'000 pcs	- Aluminium bag with vapor barrier - Protective N ₂ -atmosphere

ESPROS does not guarantee that there are no empty cavities in the tape. The pick-and-place machine should check for the presence of a chip during picking.

IMPORTANT NOTICE

ESPROS Photonics AG and its subsidiaries (ESPROS) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to ESPROS' terms and conditions of sale supplied at the time of order acknowledgment.

ESPROS warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with ESPROS' standard warranty. Testing and other quality control techniques are used to the extent ESPROS deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

ESPROS assumes no liability for applications, assistance or customer product design. Customers are responsible for their products and applications using ESPROS components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

ESPROS does not warrant or represent that any license, either express or implied, is granted under any ESPROS patent right, copyright, mask work right, or other ESPROS intellectual property right relating to any combination, machine, or process in which ESPROS products or services are used. Information published by ESPROS regarding third-party products or services does not constitute a license from ESPROS to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from ESPROS under the patents or other intellectual property of ESPROS.

Resale of ESPROS products or services with statements different from or beyond the parameters stated by ESPROS for that product or service voids all express and any implied warranties for the associated ESPROS product or service. ESPROS is not responsible or liable for any such statements.

ESPROS products are not authorized for use in safety-critical applications (such as life support) where a failure of the ESPROS product would reasonably be expected to cause severe personal injury or death, unless officers of the parties have executed an agreement

specifically governing such use. Buyers represent that they have all necessary expertise in the safety and regulatory ramifications of their applications, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of ESPROS products in such safety-critical applications, notwithstanding any application-related information or support that may be provided by ESPROS. Further, Buyers must fully indemnify ESPROS and its representatives against any damages arising out of the use of ESPROS products in such safety-critical applications.

ESPROS products are neither designed nor intended for use in military/aerospace applications or environments unless the ESPROS products are specifically designated by ESPROS as military-grade. Only products designated by ESPROS as military-grade meet military specifications. Buyers acknowledge and agree that any such use of ESPROS products which ESPROS has not designated as military-grade is solely at the buyer's risk, and that they are solely responsible for compliance with all legal and regulatory requirements in connection with such use.

ESPROS products are neither designed nor intended for use in automotive applications or environments unless the specific ESPROS products are designated by ESPROS as compliant with ISO/TS 16949 requirements. Buyers acknowledge and agree that, if they use any non-designated products in automotive applications, ESPROS will not be responsible for any failure to meet such requirements.