

## SECTION H — ELECTRICITY

### H01 BASIC ELECTRIC ELEMENTS

**H01P WAVEGUIDES; RESONATORS, LINES OR OTHER DEVICES OF THE WAVEGUIDE TYPE** (operating at optical frequencies G02B)

#### Note(s)

In this subclass, the following expression is used with the meaning indicated:

- "waveguide type" as applied to transmission lines includes only high-frequency coaxial cables or Lecher lines, and as applied to resonators, delay lines, or other devices includes all devices having distributed inductance and capacitance.

#### Subclass index

WAVEGUIDES, TRANSMISSION LINES.....3/00  
 DEVICES OF THE WAVEGUIDE TYPE  
   Auxiliary devices; coupling devices; resonators; delay lines.....1/00, 5/00, 7/00, 9/00  
 MANUFACTURE.....11/00

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| <p><b>1/00 Auxiliary devices</b> (coupling devices of the waveguide type H01P 5/00)</p> <p>1/02 • Bends; Corners; Twists</p> <p>1/04 • Fixed joints</p> <p>1/06 • Movable joints, e.g. rotating joints</p> <p>1/08 • Dielectric windows</p> <p>1/10 • for switching or interrupting</p> <p>1/11 • • by ferromagnetic devices [3]</p> <p>1/12 • • by mechanical chopper</p> <p>1/14 • • by electric discharge devices (discharge devices H01J 17/64)</p> <p>1/15 • • by semiconductor devices [2]</p> <p>1/16 • for mode selection, e.g. mode suppression or mode promotion; for mode conversion [3]</p> <p>1/161 • • sustaining two independent orthogonal modes, e.g. orthomode transducer [3]</p> <p>1/162 • • absorbing spurious or unwanted modes of propagation [3]</p> <p>1/163 • • specifically adapted for selection or promotion of the TE<sub>01</sub> circular-electric mode [3]</p> <p>1/165 • for rotating the plane of polarisation [2]</p> <p>1/17 • • for producing a continuously rotating polarisation, e.g. circular polarisation [2]</p> <p>1/175 • • using Faraday rotators [3]</p> <p>1/18 • Phase-shifters (H01P 1/165 takes precedence) [2]</p> <p>1/185 • • using a diode or a gas filled discharge tube [3]</p> <p>1/19 • • using a ferromagnetic device [3]</p> <p>1/195 • • • having a toroidal shape [3]</p> <p>1/20 • Frequency-selective devices, e.g. filters</p> <p>1/201 • • Filters for transverse electromagnetic waves (H01P 1/212, H01P 1/213, H01P 1/215, H01P 1/219 take precedence) [3]</p> <p>1/202 • • • Coaxial filters (cascaded coaxial cavities H01P 1/205) [3]</p> <p>1/203 • • • Strip line filters [3]</p> <p>1/205 • • • Comb or interdigital filters; Cascaded coaxial cavities (H01P 1/203 takes precedence) [3]</p> | <p>1/207 • • Hollow waveguide filters (H01P 1/212, H01P 1/213, H01P 1/215, H01P 1/219 take precedence) [3]</p> <p>1/208 • • • Cascaded cavities; Cascaded resonators inside a hollow waveguide structure (H01P 1/205 takes precedence) [3]</p> <p>1/209 • • • comprising one or more branching arms or cavities wholly outside the main waveguide [3]</p> <p>1/211 • • • Waffle-iron filters; Corrugated structures [3]</p> <p>1/212 • • suppressing or attenuating harmonic frequencies (H01P 1/215 takes precedence) [3]</p> <p>1/213 • • combining or separating two or more different frequencies (H01P 1/215 takes precedence) [3]</p> <p>1/215 • • using ferromagnetic material [3]</p> <p>1/217 • • • the ferromagnetic material acting as a tuning element in resonators [3]</p> <p>1/218 • • • the ferromagnetic material acting as a frequency selective coupling element, e.g. YIG-filters [3]</p> <p>1/219 • • Evanescent mode filters [3]</p> <p>1/22 • Attenuating devices (dissipative terminating devices H01P 1/26)</p> <p>1/23 • • using ferromagnetic material [3]</p> <p>1/24 • Terminating devices</p> <p>1/26 • • Dissipative terminations</p> <p>1/28 • • Short-circuiting plungers</p> <p>1/30 • for compensation of, or protection against, temperature or moisture effects</p> <p>1/32 • Non-reciprocal transmission devices (H01P 1/02-H01P 1/30 take precedence) [3]</p> <p>1/36 • • Isolators [2, 3]</p> <p>1/365 • • • Resonance absorption isolators [3]</p> <p>1/37 • • • Field displacement isolators [3]</p> <p>1/375 • • • using Faraday rotators [3]</p> <p>1/38 • • Circulators [2, 3]</p> <p>1/383 • • • Junction circulators, e.g. Y-circulators [3]</p> <p>1/387 • • • Strip line circulators [3]</p> |
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## H01P

- 1/39 • • • • Hollow waveguide circulators [3]
- 1/393 • • • using Faraday rotators [3]
- 1/397 • • • using non-reciprocal phase shifters (H01P 1/393 takes precedence) [3]

### 3/00 Waveguides; Transmission lines of the waveguide type

- 3/02 • with two longitudinal conductors
- 3/04 • • Lines formed as Lecher wire pairs
- 3/06 • • Coaxial lines
- 3/08 • • Microstrips; Strip lines
- 3/10 • Wire waveguides, i.e. with a single solid longitudinal conductor
- 3/12 • Hollow waveguides (H01P 3/20 takes precedence)
- 3/123 • • with a complex or stepped cross-section, e.g. ridged or grooved waveguides (H01P 3/14 takes precedence) [3]
- 3/127 • • with a circular, elliptic, or parabolic cross-section [3]
- 3/13 • • specially adapted for transmission of the  $TE_{01}$  circular-electric mode [2]
- 3/14 • • flexible
- 3/16 • Dielectric waveguides, i.e. without a longitudinal conductor
- 3/18 • built-up from several layers to increase operating surface, i.e. alternately conductive and dielectric layers
- 3/20 • Quasi-optical arrangements for guiding a wave, e.g. focusing by dielectric lenses

### 5/00 Coupling devices of the waveguide type

- 5/02 • with invariable factor of coupling (H01P 5/12 takes precedence) [3]

- 5/04 • with variable factor of coupling
- 5/08 • for linking lines or devices of different kinds (H01P 1/16, H01P 5/04 take precedence; linking lines of the same kind but with different dimensions H01P 5/02) [3]
- 5/10 • • for coupling balanced with unbalanced lines or devices
- 5/103 • • • Hollow-waveguide/coaxial-line transitions [3]
- 5/107 • • • Hollow-waveguide/strip-line transitions [3]
- 5/12 • Coupling devices having more than two ports (H01P 5/04 takes precedence) [3]
- 5/16 • • Conjugate devices, i.e. devices having at least one port decoupled from one other port [2]
- 5/18 • • • consisting of two coupled guides, e.g. directional couplers [2]
- 5/19 • • • of the junction type [3]
- 5/20 • • • • Magic-T junctions [2, 3]
- 5/22 • • • • Hybrid ring junctions [2, 3]

### 7/00 Resonators of the waveguide type

- 7/02 • Lecher resonators
- 7/04 • Coaxial resonators
- 7/06 • Cavity resonators
- 7/08 • Strip line resonators [3]
- 7/10 • Dielectric resonators [3]

### 9/00 Delay lines of the waveguide type

- 9/02 • Helical lines
- 9/04 • Interdigital lines

### 11/00 Apparatus or processes specially adapted for manufacturing waveguides or resonators, lines, or other devices of the waveguide type