| Symbol | Typ | Titel |
|---|---|---|
| **H** | **Sektion** | **SECTION H — ELECTRICITY** |
| **H01** | **Klasse** | **BASIC ELECTRIC ELEMENTS** |
| **H01L** | **Unterklasse** | **SEMICONDUCTOR DEVICES; ELECTRIC SOLID STATE DEVICES NOT OTHERWISE PROVIDED FOR (conveying systems for semiconductor wafers B65G 49/07; use of semiconductor devices for measuring G01; details of scanning-probe apparatus, in general G12B 21/00; resistors in general H01C; magnets, inductors, transformers H01F ; capacitors in general H01G; electrolytic devices H01G 9/00; batteries, accumulators H01M; waveguides, resonators, or lines of the waveguide type H01P; line connectors, current collectors H01R; stimulated-emission devices H01S; electromechanical resonators H03H; loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers H04R; electric light sources in general H05B; printed circuits, hybrid circuits, casings or constructional details of electrical apparatus, manufacture of assemblages of electrical components H05K; use of semiconductor devices in circuits having a particular application, see the subclass for the application) [2]** |
| ***H01L 21/00*** | ***Hauptgruppe*** | ***Processes or apparatus specially adapted for the manufacture or treatment of semiconductor or solid state devices or of parts thereof ( processes or apparatus specially adapted for the manufacture or treatment of devices provided for in groups H01L 31/00-H01L 51/00 or of parts thereof, see these groups ; single-step processes covered by other subclasses, see the relevant subclasses, e.g. C23C , C30B ; photomechanical production of textured or patterned surfaces, materials or originals therefor, apparatus specially adapted therefor, in general G03F ) [2, 2006.01]*** |
| *H01L 21/02* | *1-Punkt Untergruppe* | *. Manufacture or treatment of semiconductor devices or of parts thereof [2, 2006.01]* |
| H01L 21/027 | 2-Punkt Untergruppe | . . Making masks on semiconductor bodies for further photolithographic processing, not provided for in group H01L 21/18 or H01L 21/34 [5] |
| H01L 21/033 | 3-Punkt Untergruppe | . . . comprising inorganic layers [5] |
| H01L 21/04 | 2-Punkt Untergruppe | . . the devices having at least one potential-jump barrier or surface barrier, e.g. PN junction, depletion layer, carrier concentration layer [2] |
| H01L 21/06 | 3-Punkt Untergruppe | . . . the devices having semiconductor bodies comprising selenium or tellurium in uncombined form other than as impurities in semiconductor bodies of other materials [2] |
| H01L 21/08 | 4-Punkt Untergruppe | . . . . Preparation of the foundation plate [2] |
| H01L 21/10 | 4-Punkt Untergruppe | . . . . Preliminary treatment of the selenium or tellurium, its application to the foundation plate, or the subsequent treatment of the combination [2] |
| H01L 21/103 | 5-Punkt Untergruppe | . . . . . Conversion of the selenium or tellurium to the conductive state [2] |
| H01L 21/105 | 5-Punkt Untergruppe | . . . . . Treatment of the surface of the selenium or tellurium layer after having been made conductive [2] |
| H01L 21/108 | 5-Punkt Untergruppe | . . . . . Provision of discrete insulating layers, i.e. non-genetic barrier layers [2] |
| H01L 21/12 | 4-Punkt Untergruppe | . . . . Application of an electrode to the exposed surface of the selenium or tellurium after the selenium or tellurium has been applied to the foundation plate [2] |
| H01L 21/14 | 4-Punkt Untergruppe | . . . . Treatment of the complete device, e.g. by electroforming to form a barrier [2] |
| H01L 21/145 | 5-Punkt Untergruppe | . . . . . Ageing [2] |
| H01L 21/16 | 3-Punkt Untergruppe | . . . the devices having semiconductor bodies comprising cuprous oxide or cuprous iodide [2] |
| H01L 21/18 | 3-Punkt Untergruppe | . . . the devices having semiconductor bodies comprising elements of the fourth group of the Periodic System or $A_{III}B_{V}$ compounds with or without impurities, e.g. doping materials [2, 6, 7] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 21/20 | 4-Punkt Untergruppe | . . . . Deposition of semiconductor materials on a substrate, e.g. epitaxial growth [2] |
| H01L 21/203 | 5-Punkt Untergruppe | . . . . . using physical deposition, e.g. vacuum deposition, sputtering [2] |
| H01L 21/205 | 5-Punkt Untergruppe | . . . . . using reduction or decomposition of a gaseous compound yielding a solid condensate, i.e. chemical deposition [2] |
| H01L 21/208 | 5-Punkt Untergruppe | . . . . . using liquid deposition [2] |
| H01L 21/22 | 4-Punkt Untergruppe | . . . . Diffusion of impurity materials, e.g. doping materials, electrode materials, into, or out of, a semiconductor body, or between semiconductor regions; Redistribution of impurity materials, e.g. without introduction or removal of further dopant [2] |
| H01L 21/223 | 5-Punkt Untergruppe | . . . . . using diffusion into, or out of, a solid from or into a gaseous phase [2] |
| H01L 21/225 | 5-Punkt Untergruppe | . . . . . using diffusion into, or out of, a solid from or into a solid phase, e.g. a doped oxide layer [2] |
| H01L 21/228 | 5-Punkt Untergruppe | . . . . . using diffusion into, or out of, a solid from or into a liquid phase, e.g. alloy diffusion processes [2] |
| H01L 21/24 | 4-Punkt Untergruppe | . . . . Alloying of impurity materials, e.g. doping materials, electrode materials, with a semiconductor body [2] |
| H01L 21/26 | 4-Punkt Untergruppe | . . . . Bombardment with wave or particle radiation (thermal treatment H01L 21/324) [2] |
| H01L 21/261 | 5-Punkt Untergruppe | . . . . . to produce a nuclear reaction transmuting chemical elements [6] |
| H01L 21/263 | 5-Punkt Untergruppe | . . . . . with high-energy radiation (H01L 21/261 takes precedence) [2, 6] |
| H01L 21/265 | 6-Punkt Untergruppe | . . . . . producing ion implantation (ion-beam tubes for localised treatment H01J 37/30) [2] |
| H01L 21/266 | 7-Punkt Untergruppe | . . . . . using masks [5] |
| H01L 21/268 | 6-Punkt Untergruppe | . . . . . using electromagnetic radiation, e.g. laser radiation [2] |
| H01L 21/28 | 4-Punkt Untergruppe | . . . . Manufacture of electrodes on semiconductor bodies using processes or apparatus not provided for in groups H01L 21/20-H01L 21/268 [2] |
| H01L 21/283 | 5-Punkt Untergruppe | . . . . . Deposition of conductive or insulating materials for electrodes [2] |
| H01L 21/285 | 6-Punkt Untergruppe | . . . . . from a gas or vapour, e.g. condensation [2] |
| H01L 21/288 | 6-Punkt Untergruppe | . . . . . from a liquid, e.g. electrolytic deposition [2] |
| H01L 21/30 | 4-Punkt Untergruppe | . . . . Treatment of semiconductor bodies using processes or apparatus not provided for in groups H01L 21/20-H01L 21/26 (manufacture of electrodes thereon H01L 21/28) [2] |
| H01L 21/301 | 5-Punkt Untergruppe | . . . . . to subdivide a semiconductor body into separate parts, e.g. making partitions (cutting H01L 21/304) [6] |
| H01L 21/302 | 5-Punkt Untergruppe | . . . . . to change the physical characteristics of their surfaces, or to change their shape, e.g. etching, polishing, cutting [2] |
| H01L 21/304 | 6-Punkt Untergruppe | . . . . . Mechanical treatment, e.g. grinding, polishing, cutting [2] |
| H01L 21/306 | 6-Punkt Untergruppe | . . . . . Chemical or electrical treatment, e.g. electrolytic etching (to form insulating layers H01L 21/31; after-treatment of insulating layers H01L 21/3105) [2] |
| H01L 21/3063 | 7-Punkt Untergruppe | . . . . . Electrolytic etching [6] |
| H01L 21/3065 | 7-Punkt Untergruppe | . . . . . Plasma etching; Reactive-ion etching [6] |
| H01L 21/308 | 7-Punkt Untergruppe | . . . . . using masks (H01L 21/3063, H01L 21/3065, take precedence) [2, 6] |
| H01L 21/31 | 5-Punkt Untergruppe | . . . . . to form insulating layers thereon, e.g. for masking or by using photolithographic techniques (layers forming electrodes H01L 21/28; encapsulating layers H01L 21/56); After-treatment of these layers; Selection of materials for these layers [2, 5] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 21/3105 | 6-Punkt Untergruppe | . . . . . After-treatment [5] |
| H01L 21/311 | 7-Punkt Untergruppe | . . . . . Etching the insulating layers [5] |
| H01L 21/3115 | 7-Punkt Untergruppe | . . . . . Doping the insulating layers [5] |
| H01L 21/312 | 6-Punkt Untergruppe | . . . . . Organic layers, e.g. photoresist (H01L 21/3105, H01L 21/32 take precedence) [2, 5] |
| H01L 21/314 | 6-Punkt Untergruppe | . . . . . Inorganic layers (H01L 21/3105, H01L 21/32 take precedence) [2, 5] |
| H01L 21/316 | 7-Punkt Untergruppe | . . . . . composed of oxides or glassy oxides or oxide-based glass [2] |
| H01L 21/318 | 7-Punkt Untergruppe | . . . . . composed of nitrides [2] |
| H01L 21/32 | 6-Punkt Untergruppe | . . . . . using masks [2, 5] |
| H01L 21/3205 | 6-Punkt Untergruppe | . . . . . Deposition of non-insulating-, e.g. conductive-, resistive-, layers, on insulating layers (arrangements for conducting electric current within the device H01L 23/52); After-treatment of these layers ( manufacture of electrodes H01L 21/28) [5] |
| H01L 21/321 | 7-Punkt Untergruppe | . . . . . After-treatment [5] |
| H01L 21/3213 | 8-Punkt Untergruppe | . . . . . Physical or chemical etching of the layers, e.g. to produce a patterned layer from a pre-deposited extensive layer [6] |
| H01L 21/3215 | 8-Punkt Untergruppe | . . . . . Doping the layers [5] |
| H01L 21/322 | 5-Punkt Untergruppe | . . . . . to modify their internal properties, e.g. to produce internal imperfections [2] |
| H01L 21/324 | 5-Punkt Untergruppe | . . . . . Thermal treatment for modifying the properties of semiconductor bodies, e.g. annealing, sintering ( H01L 21/20-H01L 21/288, H01L 21/302-H01L 21/322 take precedence) [2] |
| H01L 21/326 | 5-Punkt Untergruppe | . . . . . Application of electric currents or fields, e.g. for electroforming (H01L 21/20-H01L 21/288, H01L 21/302-H01L 21/324 take precedence) [2] |
| H01L 21/328 | 4-Punkt Untergruppe | . . . . Multistep processes for the manufacture of devices of the bipolar type, e.g. diodes, transistors, thyristors [5] |
| H01L 21/329 | 5-Punkt Untergruppe | . . . . . the devices comprising one or two electrodes, e.g. diodes [5] |
| H01L 21/33 | 5-Punkt Untergruppe | . . . . . the devices comprising three or more electrodes [5] |
| H01L 21/331 | 6-Punkt Untergruppe | . . . . . Transistors [5] |
| H01L 21/332 | 6-Punkt Untergruppe | . . . . . Thyristors [5] |
| H01L 21/334 | 4-Punkt Untergruppe | . . . . Multistep processes for the manufacture of devices of the unipolar type [5] |
| H01L 21/335 | 5-Punkt Untergruppe | . . . . . Field-effect transistors [5] |
| H01L 21/336 | 6-Punkt Untergruppe | . . . . . with an insulated gate [5] |
| H01L 21/337 | 6-Punkt Untergruppe | . . . . . with a PN junction gate [5] |
| H01L 21/338 | 6-Punkt Untergruppe | . . . . . with a Schottky gate [5] |
| H01L 21/339 | 5-Punkt Untergruppe | . . . . . Charge transfer devices [5, 6] |
| H01L 21/34 | 3-Punkt Untergruppe | . . . the devices having semiconductor bodies not provided for in groups H01L 21/06, H01L 21/16, and H01L 21/18 with or without impurities, e.g. doping materials [2] |
| H01L 21/36 | 4-Punkt Untergruppe | . . . . Deposition of semiconductor materials on a substrate, e.g. epitaxial growth [2] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 21/363 | 5-Punkt Untergruppe | . . . . . using physical deposition, e.g. vacuum deposition, sputtering [2] |
| H01L 21/365 | 5-Punkt Untergruppe | . . . . . using reduction or decomposition of a gaseous compound yielding a solid condensate, i.e. chemical deposition [2] |
| H01L 21/368 | 5-Punkt Untergruppe | . . . . . using liquid deposition [2] |
| H01L 21/38 | 4-Punkt Untergruppe | . . . . Diffusion of impurity materials, e.g. doping materials, electrode materials, into, or out of, a semiconductor body, or between semiconductor regions [2] |
| H01L 21/383 | 5-Punkt Untergruppe | . . . . . using diffusion into, or out of, a solid from or into a gaseous phase [2] |
| H01L 21/385 | 5-Punkt Untergruppe | . . . . . using diffusion into, or out of, a solid from or into a solid phase, e.g. a doped oxide layer [2] |
| H01L 21/388 | 5-Punkt Untergruppe | . . . . . using diffusion into, or out of, a solid from or into a liquid phase, e.g. alloy diffusion processes [2] |
| H01L 21/40 | 4-Punkt Untergruppe | . . . . Alloying of impurity materials, e.g. doping materials, electrode materials, with a semiconductor body [2] |
| H01L 21/42 | 4-Punkt Untergruppe | . . . . Bombardment with radiation [2] |
| H01L 21/423 | 5-Punkt Untergruppe | . . . . . with high-energy radiation [2] |
| H01L 21/425 | 6-Punkt Untergruppe | . . . . . producing ion implantation (ion-beam tubes for localised treatment H01J 37/30) [2] |
| H01L 21/426 | 7-Punkt Untergruppe | . . . . . using masks [5] |
| H01L 21/428 | 6-Punkt Untergruppe | . . . . . using electromagnetic radiation, e.g. laser radiation [2] |
| H01L 21/44 | 4-Punkt Untergruppe | . . . . Manufacture of electrodes on semiconductor bodies using processes or apparatus not provided for in groups H01L 21/36-H01L 21/428 [2] |
| H01L 21/441 | 5-Punkt Untergruppe | . . . . . Deposition of conductive or insulating materials for electrodes [2] |
| H01L 21/443 | 6-Punkt Untergruppe | . . . . . from a gas or vapour, e.g. condensation [2] |
| H01L 21/445 | 6-Punkt Untergruppe | . . . . . from a liquid, e.g. electrolytic deposition [2] |
| H01L 21/447 | 5-Punkt Untergruppe | . . . . . involving the application of pressure, e.g. thermo-compression bonding (H01L 21/607 takes precedence ) [2] |
| H01L 21/449 | 5-Punkt Untergruppe | . . . . . involving the application of mechanical vibrations, e.g. ultrasonic vibrations [2] |
| H01L 21/46 | 4-Punkt Untergruppe | . . . . Treatment of semiconductor bodies using processes or apparatus not provided for in groups H01L 21/36-H01L 21/428 (manufacture of electrodes thereon H01L 21/44) [2] |
| H01L 21/461 | 5-Punkt Untergruppe | . . . . . to change their surface-physical characteristics or shape, e.g. etching, polishing, cutting [2] |
| H01L 21/463 | 6-Punkt Untergruppe | . . . . . Mechanical treatment, e.g. grinding, ultrasonic treatment [2] |
| H01L 21/465 | 6-Punkt Untergruppe | . . . . . Chemical or electrical treatment, e.g. electrolytic etching (to form insulating layers H01L 21/469) [2] |
| H01L 21/467 | 7-Punkt Untergruppe | . . . . . using masks [2] |
| H01L 21/469 | 6-Punkt Untergruppe | . . . . . to form insulating layers thereon, e.g. for masking or by using photolithographic techniques (layers forming electrodes H01L 21/44; encapsulating layers H01L 21/56); After-treatment of these layers [2, 5] |
| H01L 21/47 | 7-Punkt Untergruppe | . . . . . Organic layers, e.g. photoresist (H01L 21/475, H01L 21/4757 take precedence) [2, 5] |
| H01L 21/471 | 7-Punkt Untergruppe | . . . . . Inorganic layers (H01L 21/475, H01L 21/4757 take precedence) [2, 5] |
| H01L 21/473 | 8-Punkt Untergruppe | . . . . . composed of oxides or glassy oxides or oxide-based glass [2] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 21/475 | 7-Punkt Untergruppe | . . . . . using masks [2, 5] |
| H01L 21/4757 | 7-Punkt Untergruppe | . . . . . After-treatment [5] |
| H01L 21/4763 | 6-Punkt Untergruppe | . . . . . Deposition of non-insulating-, e.g. conductive-, resistive-, layers on insulating layers; After-treatment of these layers (manufacture of electrodes H01L 21/28) [5] |
| H01L 21/477 | 5-Punkt Untergruppe | . . . . . Thermal treatment for modifying the properties of semiconductor bodies, e.g. annealing, sintering ( H01L 21/36-H01L 21/449, H01L 21/461-H01L 21/475 take precedence) [2] |
| H01L 21/479 | 5-Punkt Untergruppe | . . . . . Application of electric currents or fields, e.g. for electroforming (H01L 21/36-H01L 21/449, H01L 21/461-H01L 21/477 take precedence) [2] |
| H01L 21/48 | 3-Punkt Untergruppe | . . . Manufacture or treatment of parts, e.g. containers, prior to assembly of the devices, using processes not provided for in a single one of the groups H01L 21/06-H01L 21/326 (containers, encapsulations, fillings, mountings per seH01L 23/00) [2] |
| H01L 21/50 | 3-Punkt Untergruppe | . . . Assembly of semiconductor devices using processes or apparatus not provided for in a single one of the groups H01L 21/06-H01L 21/326 [2] |
| H01L 21/52 | 4-Punkt Untergruppe | . . . . Mounting semiconductor bodies in containers [2] |
| H01L 21/54 | 4-Punkt Untergruppe | . . . . Providing fillings in containers, e.g. gas fillings [2] |
| H01L 21/56 | 4-Punkt Untergruppe | . . . . Encapsulations, e.g. encapsulating layers, coatings [2] |
| H01L 21/58 | 4-Punkt Untergruppe | . . . . Mounting semiconductor devices on supports [2] |
| H01L 21/60 | 4-Punkt Untergruppe | . . . . Attaching leads or other conductive members, to be used for carrying current to or from the device in operation [2] |
| H01L 21/603 | 5-Punkt Untergruppe | . . . . . involving the application of pressure, e.g. thermo-compression bonding (H01L 21/607 takes precedence ) [2] |
| H01L 21/607 | 5-Punkt Untergruppe | . . . . . involving the application of mechanical vibrations, e.g. ultrasonic vibrations [2] |
| H01L 21/62 | 2-Punkt Untergruppe | . . the devices having no potential-jump barriers or surface barriers [2] |
| *H01L 21/64* | *1-Punkt Untergruppe* | *. Manufacture or treatment of solid state devices other than semiconductor devices, or of parts thereof, not specially adapted for a single type of device provided for in groups H01L 31/00-H01L 51/00 [2, 2006.01]* |
| H01L 21/66 | 1-Punkt Untergruppe | . Testing or measuring during manufacture or treatment (after manufacture G01R 31/26) [2] |
| *H01L 21/67* | *1-Punkt Untergruppe* | *. Apparatus specially adapted for handling semiconductor or electric solid state devices during manufacture or treatment thereof ; Apparatus specially adapted for handling wafers during manufacture or treatment of semiconductor or electric solid state devices or components [2006.01]* |
| *H01L 21/673* | *2-Punkt Untergruppe* | *. . using specially adapted carriers [2006.01]* |
| *H01L 21/677* | *2-Punkt Untergruppe* | *. . for conveying, e.g. between different work stations [2006.01]* |
| *H01L 21/68* | *2-Punkt Untergruppe* | *. . for positioning, orientation or alignment ( for conveying H01L 21/677 ) [2, 2006.01]* |
| *H01L 21/683* | *2-Punkt Untergruppe* | *. . for supporting or gripping ( for conveying H01L 21/677 , for positioning, orientation or alignment H01L 21/68 ) [2006.01]* |
| *H01L 21/687* | *3-Punkt Untergruppe* | *. . . using mechanical means, e.g. chucks, clamps or pinches [2006.01]* |
| H01L 21/70 | 1-Punkt Untergruppe | . Manufacture or treatment of devices consisting of a plurality of solid state components or integrated circuits formed in or on a common substrate or of specific parts thereof; Manufacture of integrated circuit devices or of specific parts thereof (manufacture of assemblies consisting of preformed electrical components H05K 3/00, H05K 13/00) [2] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 21/71 | 2-Punkt Untergruppe | . . Manufacture of specific parts of devices defined in group H01L 21/70 (H01L 21/28, H01L 21/44, H01L 21/48 take precedence) [6] |
| H01L 21/74 | 3-Punkt Untergruppe | . . . Making of buried regions of high impurity concentration, e.g. buried collector layers, internal connections [2] |
| H01L 21/76 | 3-Punkt Untergruppe | . . . Making of isolation regions between components [2] |
| H01L 21/761 | 4-Punkt Untergruppe | . . . . PN junctions [6] |
| H01L 21/762 | 4-Punkt Untergruppe | . . . . Dielectric regions [6] |
| H01L 21/763 | 4-Punkt Untergruppe | . . . . Polycrystalline semiconductor regions [6] |
| H01L 21/764 | 4-Punkt Untergruppe | . . . . Air gaps [6] |
| H01L 21/765 | 4-Punkt Untergruppe | . . . . by field-effect [6] |
| H01L 21/768 | 3-Punkt Untergruppe | . . . Applying interconnections to be used for carrying current between separate components within a device [6] |
| H01L 21/77 | 2-Punkt Untergruppe | . . Manufacture or treatment of devices consisting of a plurality of solid state components or integrated circuits formed in, or on, a common substrate [6] |
| H01L 21/78 | 3-Punkt Untergruppe | . . . with subsequent division of the substrate into plural individual devices (cutting to change the surface-physical characteristics or shape of semiconductor bodies H01L 21/304) [2, 6] |
| H01L 21/782 | 4-Punkt Untergruppe | . . . . to produce devices, each consisting of a single circuit element (H01L 21/82 takes precedence) [6] |
| H01L 21/784 | 5-Punkt Untergruppe | . . . . . the substrate being a semiconductor body [6] |
| H01L 21/786 | 5-Punkt Untergruppe | . . . . . the substrate being other than a semiconductor body, e.g. insulating body [6] |
| H01L 21/82 | 4-Punkt Untergruppe | . . . . to produce devices, e.g. integrated circuits, each consisting of a plurality of components [2] |
| H01L 21/822 | 5-Punkt Untergruppe | . . . . . the substrate being a semiconductor, using silicon technology (H01L 21/8258 takes precedence) [6] |
| H01L 21/8222 | 6-Punkt Untergruppe | . . . . . Bipolar technology [6] |
| H01L 21/8224 | 7-Punkt Untergruppe | . . . . . comprising a combination of vertical and lateral transistors [6] |
| H01L 21/8226 | 7-Punkt Untergruppe | . . . . . comprising merged transistor logic or integrated injection logic [6] |
| H01L 21/8228 | 7-Punkt Untergruppe | . . . . . Complementary devices, e.g. complementary transistors [6] |
| H01L 21/8229 | 7-Punkt Untergruppe | . . . . . Memory structures [6] |
| H01L 21/8232 | 6-Punkt Untergruppe | . . . . . Field-effect technology [6] |
| H01L 21/8234 | 7-Punkt Untergruppe | . . . . . MIS technology [6] |
| H01L 21/8236 | 8-Punkt Untergruppe | . . . . . Combination of enhancement and depletion transistors [6] |
| H01L 21/8238 | 8-Punkt Untergruppe | . . . . . Complementary field-effect transistors, e.g. CMOS [6] |
| H01L 21/8239 | 8-Punkt Untergruppe | . . . . . Memory structures [6] |
| H01L 21/8242 | 9-Punkt Untergruppe | . . . . . Dynamic random access memory structures (DRAM) [6] |
| H01L 21/8244 | 9-Punkt Untergruppe | . . . . . Static random access memory structures (SRAM) [6] |
| H01L 21/8246 | 9-Punkt Untergruppe | . . . . . Read-only memory structures (ROM) [6] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 21/8247 | 10-Punkt Untergruppe | . . . . . electrically-programmable (EPROM) [6] |
| H01L 21/8248 | 6-Punkt Untergruppe | . . . . . Combination of bipolar and field-effect technology [6] |
| H01L 21/8249 | 7-Punkt Untergruppe | . . . . . Bipolar and MOS technology [6] |
| H01L 21/8252 | 5-Punkt Untergruppe | . . . . . the substrate being a semiconductor, using III-V technology (H01L 21/8258 takes precedence) [6] |
| H01L 21/8254 | 5-Punkt Untergruppe | . . . . . the substrate being a semiconductor, using II-VI technology (H01L 21/8258 takes precedence) [6] |
| H01L 21/8256 | 5-Punkt Untergruppe | . . . . . the substrate being a semiconductor, using technologies not covered by one of groups H01L 21/822, H01L 21/8252 or H01L 21/8254 (H01L 21/8258 takes precedence) [6] |
| H01L 21/8258 | 5-Punkt Untergruppe | . . . . . the substrate being a semiconductor, using a combination of technologies covered by H01L 21/822, H01L 21/8252, H01L 21/8254 or H01L 21/8256 [6] |
| H01L 21/84 | 5-Punkt Untergruppe | . . . . . the substrate being other than a semiconductor body, e.g. being an insulating body [2, 6] |
| H01L 21/86 | 6-Punkt Untergruppe | . . . . . the insulating body being sapphire, e.g. silicon on sapphire structure, i.e. SOS [2, 6] |
| H01L 21/98 | 2-Punkt Untergruppe | . . Assembly of devices consisting of solid state components formed in or on a common substrate; Assembly of integrated circuit devices (H01L 21/50 takes precedence; assemblies H01L 25/00) [2, 5] |
| **H01L 23/00** | **Hauptgruppe** | **Details of semiconductor or other solid state devices (H01L 25/00 takes precedence) [2, 5]** |
| H01L 23/02 | 1-Punkt Untergruppe | . Containers; Seals (H01L 23/12, H01L 23/34, H01L 23/48, H01L 23/552 take precedence) [2, 5] |
| H01L 23/04 | 2-Punkt Untergruppe | . . characterised by the shape [2] |
| H01L 23/043 | 3-Punkt Untergruppe | . . . the container being a hollow construction and having a conductive base as a mounting as well as a lead for the semiconductor body [5] |
| H01L 23/045 | 4-Punkt Untergruppe | . . . . the other leads having an insulating passage through the base [5] |
| H01L 23/047 | 4-Punkt Untergruppe | . . . . the other leads being parallel to the base [5] |
| H01L 23/049 | 4-Punkt Untergruppe | . . . . the other leads being perpendicular to the base [5] |
| H01L 23/051 | 4-Punkt Untergruppe | . . . . another lead being formed by a cover plate parallel to the base plate, e.g. sandwich type [5] |
| H01L 23/053 | 3-Punkt Untergruppe | . . . the container being a hollow construction and having an insulating base as a mounting for the semiconductor body [5] |
| H01L 23/055 | 4-Punkt Untergruppe | . . . . the leads having a passage through the base [5] |
| H01L 23/057 | 4-Punkt Untergruppe | . . . . the leads being parallel to the base [5] |
| H01L 23/06 | 2-Punkt Untergruppe | . . characterised by the material of the container or its electrical properties [2] |
| H01L 23/08 | 3-Punkt Untergruppe | . . . the material being an electrical insulator, e.g. glass [2] |
| H01L 23/10 | 2-Punkt Untergruppe | . . characterised by the material or arrangement of seals between parts, e.g. between cap and base of the container or between leads and walls of the container [2] |
| H01L 23/12 | 1-Punkt Untergruppe | . Mountings, e.g. non-detachable insulating substrates [2] |
| H01L 23/13 | 2-Punkt Untergruppe | . . characterised by the shape [5] |
| H01L 23/14 | 2-Punkt Untergruppe | . . characterised by the material or its electrical properties [2] |
| H01L 23/15 | 3-Punkt Untergruppe | . . . Ceramic or glass substrates [5] |
| H01L 23/16 | 1-Punkt Untergruppe | . Fillings or auxiliary members in containers, e.g. centering rings (H01L 23/42, H01L 23/552 take precedence) [2, 5] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 23/18 | 2-Punkt Untergruppe | . . Fillings characterised by the material, its physical or chemical properties, or its arrangement within the complete device [2] |
| H01L 23/20 | 3-Punkt Untergruppe | . . . gaseous at the normal operating temperature of the device [2] |
| H01L 23/22 | 3-Punkt Untergruppe | . . . liquid at the normal operating temperature of the device [2] |
| H01L 23/24 | 3-Punkt Untergruppe | . . . solid or gel, at the normal operating temperature of the device [2] |
| H01L 23/26 | 3-Punkt Untergruppe | . . . including materials for absorbing or reacting with moisture or other undesired substances [2] |
| H01L 23/28 | 1-Punkt Untergruppe | . Encapsulation, e.g. encapsulating layers, coatings (H01L 23/552 takes precedence) [2, 5] |
| H01L 23/29 | 2-Punkt Untergruppe | . . characterised by the material [5] |
| H01L 23/31 | 2-Punkt Untergruppe | . . characterised by the arrangement [5] |
| H01L 23/32 | 1-Punkt Untergruppe | . Holders for supporting the complete device in operation, i.e. detachable fixtures (H01L 23/40 takes precedence; connectors in general H01R; for printed circuits H05K) [2, 5] |
| H01L 23/34 | 1-Punkt Untergruppe | . Arrangements for cooling, heating, ventilating or temperature compensation [2, 5] |
| H01L 23/36 | 2-Punkt Untergruppe | . . Selection of materials, or shaping, to facilitate cooling or heating, e.g. heat sinks [2] |
| H01L 23/367 | 3-Punkt Untergruppe | . . . Cooling facilitated by shape of device [5] |
| H01L 23/373 | 3-Punkt Untergruppe | . . . Cooling facilitated by selection of materials for the device [5] |
| H01L 23/38 | 2-Punkt Untergruppe | . . Cooling arrangements using the Peltier effect [2] |
| H01L 23/40 | 2-Punkt Untergruppe | . . Mountings or securing means for detachable cooling or heating arrangements [2] |
| H01L 23/42 | 2-Punkt Untergruppe | . . Fillings or auxiliary members in containers selected or arranged to facilitate heating or cooling ( characterised by selection of materials for the device H01L 23/373) [2, 5] |
| H01L 23/427 | 3-Punkt Untergruppe | . . . Cooling by change of state, e.g. use of heat pipes [5] |
| H01L 23/433 | 3-Punkt Untergruppe | . . . Auxiliary members characterised by their shape, e.g. pistons [5] |
| H01L 23/44 | 2-Punkt Untergruppe | . . the complete device being wholly immersed in a fluid other than air (H01L 23/427 takes precedence) [2, 5] |
| H01L 23/46 | 2-Punkt Untergruppe | . . involving the transfer of heat by flowing fluids (H01L 23/42, H01L 23/44 take precedence) [2] |
| H01L 23/467 | 3-Punkt Untergruppe | . . . by flowing gases, e.g. air [5] |
| H01L 23/473 | 3-Punkt Untergruppe | . . . by flowing liquids [5] |
| H01L 23/48 | 1-Punkt Untergruppe | . Arrangements for conducting electric current to or from the solid state body in operation, e.g. leads, terminal arrangements (in general H01R) [2] |
| H01L 23/482 | 2-Punkt Untergruppe | . . consisting of lead-in layers inseparably applied to the semiconductor body [5] |
| H01L 23/485 | 3-Punkt Untergruppe | . . . consisting of layered constructions comprising conductive layers and insulating layers, e.g. planar contacts [5] |
| *H01L 23/488* | *2-Punkt Untergruppe* | *. . consisting of soldered or bonded constructions [5, 2006.01]* |
| H01L 23/49 | 3-Punkt Untergruppe | . . . wire-like [5] |
| H01L 23/492 | 3-Punkt Untergruppe | . . . Bases or plates [5] |
| H01L 23/495 | 3-Punkt Untergruppe | . . . Lead-frames [5] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 23/498 | 3-Punkt Untergruppe | . . . Leads on insulating substrates [5] |
| H01L 23/50 | 2-Punkt Untergruppe | . . for integrated circuit devices (H01L 23/482-H01L 23/498 take precedence) [2, 5] |
| H01L 23/52 | 1-Punkt Untergruppe | . Arrangements for conducting electric current within the device in operation from one component to another [2] |
| H01L 23/522 | 2-Punkt Untergruppe | . . including external interconnections consisting of a multilayer structure of conductive and insulating layers inseparably formed on the semiconductor body [5] |
| H01L 23/525 | 3-Punkt Untergruppe | . . . with adaptable interconnections [5] |
| H01L 23/528 | 3-Punkt Untergruppe | . . . Layout of the interconnection structure [5] |
| H01L 23/532 | 3-Punkt Untergruppe | . . . characterised by the materials [5] |
| H01L 23/535 | 2-Punkt Untergruppe | . . including internal interconnections, e.g. cross-under constructions [5] |
| H01L 23/538 | 2-Punkt Untergruppe | . . the interconnection structure between a plurality of semiconductor chips being formed on, or in, insulating substrates (mountings H01L 23/12) [5] |
| H01L 23/544 | 1-Punkt Untergruppe | . Marks applied to semiconductor devices, e.g. registration marks, test patterns [5] |
| H01L 23/552 | 1-Punkt Untergruppe | . Protection against radiation, e.g. light [5] |
| H01L 23/556 | 2-Punkt Untergruppe | . . against alpha rays [5] |
| H01L 23/58 | 1-Punkt Untergruppe | . Structural electrical arrangements for semiconductor devices not otherwise provided for [5] |
| H01L 23/60 | 2-Punkt Untergruppe | . . Protection against electrostatic charges or discharges, e.g. Faraday shields (in general H05F) [5] |
| H01L 23/62 | 2-Punkt Untergruppe | . . Protection against overcurrent or overload, e.g. fuses, shunts [5] |
| H01L 23/64 | 2-Punkt Untergruppe | . . Impedance arrangements [5] |
| H01L 23/66 | 3-Punkt Untergruppe | . . . High-frequency adaptations [5] |
| **H01L 25/00** | **Hauptgruppe** | **Assemblies consisting of a plurality of individual semiconductor or other solid state devices ( devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00; assemblies of photoelectronic cells H01L 31/042; generators using solar cells or solar panels H02N 6/00; details of complete circuit assemblies provided for in another subclass, e.g. details of television receivers, see the relevant subclass, e.g. H04N; details of assemblies of electrical components in general H05K) [2, 5]** |
| *H01L 25/03* | *1-Punkt Untergruppe* | *. all the devices being of a type provided for in the same subgroup of groups H01L 27/00-H01L 51/00 , e.g. assemblies of rectifier diodes [5, 2006.01]* |
| H01L 25/04 | 2-Punkt Untergruppe | . . the devices not having separate containers [2] |
| H01L 25/065 | 3-Punkt Untergruppe | . . . the devices being of a type provided for in group H01L 27/00 [5] |
| H01L 25/07 | 3-Punkt Untergruppe | . . . the devices being of a type provided for in group H01L 29/00 [5] |
| H01L 25/075 | 3-Punkt Untergruppe | . . . the devices being of a type provided for in group H01L 33/00 [5] |
| H01L 25/10 | 2-Punkt Untergruppe | . . the devices having separate containers [2] |
| H01L 25/11 | 3-Punkt Untergruppe | . . . the devices being of a type provided for in group H01L 29/00 [5] |
| H01L 25/13 | 3-Punkt Untergruppe | . . . the devices being of a type provided for in group H01L 33/00 [5] |
| *H01L 25/16* | *1-Punkt Untergruppe* | *. the devices being of types provided for in two or more different main groups of groups H01L 27/00-H01L 51/00 , e.g. forming hybrid circuits [2, 2006.01]* |

| Symbol | Typ | Titel |
|---|---|---|
| *H01L 25/18* | *1-Punkt Untergruppe* | *. the devices being of types provided for in two or more different subgroups of the same main group of groups H01L 27/00-H01L 51/00 [5, 2006.01]* |
| ***H01L 27/00*** | ***Hauptgruppe*** | ***Devices consisting of a plurality of semiconductor or other solid-state components formed in or on a common substrate ( processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof H01L 21/70 , H01L 31/00-H01L 51/00 ; details thereof H01L 23/00 , H01L 29/00-H01L 51/00 ; assemblies consisting of a plurality of individual solid state devices H01L 25/00 ; assemblies of electrical components in general H05K ) [2, 2006.01]*** |
| H01L 27/01 | 1-Punkt Untergruppe | . comprising only passive thin-film or thick-film elements formed on a common insulating substrate [3] |
| H01L 27/02 | 1-Punkt Untergruppe | . including semiconductor components specially adapted for rectifying, oscillating, amplifying or switching and having at least one potential-jump barrier or surface barrier; including integrated passive circuit elements with at least one potential-jump barrier or surface barrier [2] |
| H01L 27/04 | 2-Punkt Untergruppe | . . the substrate being a semiconductor body [2] |
| H01L 27/06 | 3-Punkt Untergruppe | . . . including a plurality of individual components in a non-repetitive configuration [2] |
| H01L 27/07 | 4-Punkt Untergruppe | . . . . the components having an active region in common [5] |
| H01L 27/08 | 3-Punkt Untergruppe | . . . including only semiconductor components of a single kind [2] |
| H01L 27/082 | 4-Punkt Untergruppe | . . . . including bipolar components only [5] |
| H01L 27/085 | 4-Punkt Untergruppe | . . . . including field-effect components only [5] |
| H01L 27/088 | 5-Punkt Untergruppe | . . . . . the components being field-effect transistors with insulated gate [5] |
| H01L 27/092 | 6-Punkt Untergruppe | . . . . . complementary MIS field-effect transistors [5] |
| H01L 27/095 | 5-Punkt Untergruppe | . . . . . the components being Schottky barrier gate field-effect transistors [5] |
| H01L 27/098 | 5-Punkt Untergruppe | . . . . . the components being PN junction gate field-effect transistors [5] |
| H01L 27/10 | 3-Punkt Untergruppe | . . . including a plurality of individual components in a repetitive configuration [2] |
| H01L 27/102 | 4-Punkt Untergruppe | . . . . including bipolar components [5] |
| H01L 27/105 | 4-Punkt Untergruppe | . . . . including field-effect components [5] |
| H01L 27/108 | 5-Punkt Untergruppe | . . . . . Dynamic random access memory structures [5] |
| H01L 27/11 | 5-Punkt Untergruppe | . . . . . Static random access memory structures [5] |
| H01L 27/112 | 5-Punkt Untergruppe | . . . . . Read-only memory structures [5] |
| H01L 27/115 | 6-Punkt Untergruppe | . . . . . Electrically programmable read-only memories [5] |
| H01L 27/118 | 4-Punkt Untergruppe | . . . . Masterslice integrated circuits [5] |
| H01L 27/12 | 2-Punkt Untergruppe | . . the substrate being other than a semiconductor body, e.g. an insulating body [2] |
| H01L 27/13 | 3-Punkt Untergruppe | . . . combined with thin-film or thick-film passive components [3] |
| H01L 27/14 | 1-Punkt Untergruppe | . including semiconductor components sensitive to infra-red radiation, light, electromagnetic radiation of shorter wavelength or corpuscular radiation and specially adapted either for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation (radiation-sensitive components structurally associated with one or more electric light sources only H01L 31/14; couplings of light guides with optoelectronic elements G02B 6/42) [2] |
| H01L 27/142 | 2-Punkt Untergruppe | . . Energy conversion devices [5] |
| H01L 27/144 | 2-Punkt Untergruppe | . . Devices controlled by radiation [5] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 27/146 | 3-Punkt Untergruppe | . . . Imager structures [5] |
| H01L 27/148 | 4-Punkt Untergruppe | . . . . Charge coupled imagers [5] |
| H01L 27/15 | 1-Punkt Untergruppe | . including semiconductor components with at least one potential-jump barrier or surface barrier, specially adapted for light emission [2] |
| H01L 27/16 | 1-Punkt Untergruppe | . including thermoelectric components with or without a junction of dissimilar materials; including thermomagnetic components (using the Peltier effect only for cooling of semiconductor or other solid state devices H01L 23/38) [2] |
| H01L 27/18 | 1-Punkt Untergruppe | . including components exhibiting superconductivity [2] |
| H01L 27/20 | 1-Punkt Untergruppe | . including piezo-electric components; including electrostrictive components; including magnetostrictive components [2, 7] |
| H01L 27/22 | 1-Punkt Untergruppe | . including components using galvano-magnetic effects, e.g. Hall effect; using similar magnetic field effects [2] |
| H01L 27/24 | 1-Punkt Untergruppe | . including solid state components for rectifying, amplifying, or switching without a potential-jump barrier or surface barrier [2] |
| H01L 27/26 | 1-Punkt Untergruppe | . including bulk negative resistance effect components [2] |
| *H01L 27/28* | *1-Punkt Untergruppe* | *. including components using organic materials as the active part, or using a combination of organic materials with other materials as the active part [2006.01]* |
| *H01L 27/30* | *2-Punkt Untergruppe* | *. . with components specially adapted for sensing infra-red radiation, light, electromagnetic radiation of shorter wavelength, or corpuscular radiation ; with components specially adapted for either the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation [2006.01]* |
| *H01L 27/32* | *2-Punkt Untergruppe* | *. . with components specially adapted for light emission, e.g. flat-panel displays using organic light-emitting diodes [2006.01]* |
| **H01L 29/00** | **Hauptgruppe** | **Semiconductor devices specially adapted for rectifying, amplifying, oscillating or switching and having at least one potential-jump barrier or surface barrier; Capacitors or resistors with at least one potential-jump barrier or surface barrier, e.g. PN-junction depletion layer or carrier concentration layer; Details of semiconductor bodies or of electrodes thereof (H01L 31/00-H01L 47/00, H01L 51/05 take precedence; processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof H01L 21/00; details other than of semiconductor bodies or of electrodes thereof H01L 23/00; devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00; resistors in general H01C; capacitors in general H01G) [2, 6]** |
| H01L 29/02 | 1-Punkt Untergruppe | . Semiconductor bodies [2] |
| H01L 29/04 | 2-Punkt Untergruppe | . . characterised by their crystalline structure, e.g. polycrystalline, cubic, particular orientation of crystalline planes (imperfections H01L 29/30) [2] |
| H01L 29/06 | 2-Punkt Untergruppe | . . characterised by their shape; characterised by the shapes, relative sizes, or dispositions of the semiconductor regions [2] |
| H01L 29/08 | 3-Punkt Untergruppe | . . . with semiconductor regions connected to an electrode carrying current to be rectified, amplified, or switched and such electrode being part of a semiconductor device which comprises three or more electrodes [2] |
| H01L 29/10 | 3-Punkt Untergruppe | . . . with semiconductor regions connected to an electrode not carrying current to be rectified, amplified, or switched and such electrode being part of a semiconductor device which comprises three or more electrodes [2] |
| H01L 29/12 | 2-Punkt Untergruppe | . . characterised by the materials of which they are formed [2] |
| H01L 29/15 | 3-Punkt Untergruppe | . . . Structures with periodic or quasi periodic potential variation, e.g. multiple quantum wells, superlattices ( such structures applied for the control of light G02F 1/017, applied in semiconductor lasers H01S 5/34) [6] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 29/16 | 3-Punkt Untergruppe | . . . including, apart from doping materials or other impurities, only elements of the fourth group of the Periodic System in uncombined form [2] |
| H01L 29/161 | 4-Punkt Untergruppe | . . . . including two or more of the elements provided for in group H01L 29/16 [2] |
| H01L 29/165 | 5-Punkt Untergruppe | . . . . . in different semiconductor regions [2] |
| H01L 29/167 | 4-Punkt Untergruppe | . . . . further characterised by the doping material [2] |
| H01L 29/18 | 3-Punkt Untergruppe | . . . Selenium or tellurium only, apart from doping materials or other impurities [2] |
| H01L 29/20 | 3-Punkt Untergruppe | . . . including, apart from doping materials or other impurities, only $A_{III}B_{V}$ compounds [2, 6] |
| H01L 29/201 | 4-Punkt Untergruppe | . . . . including two or more compounds [2] |
| H01L 29/205 | 5-Punkt Untergruppe | . . . . . in different semiconductor regions [2] |
| H01L 29/207 | 4-Punkt Untergruppe | . . . . further characterised by the doping material [2] |
| H01L 29/22 | 3-Punkt Untergruppe | . . . including, apart from doping materials or other impurities, only $A_{II}B_{VI}$ compounds [2] |
| H01L 29/221 | 4-Punkt Untergruppe | . . . . including two or more compounds [2] |
| H01L 29/225 | 5-Punkt Untergruppe | . . . . . in different semiconductor regions [2] |
| H01L 29/227 | 4-Punkt Untergruppe | . . . . further characterised by the doping material [2] |
| H01L 29/24 | 3-Punkt Untergruppe | . . . including, apart from doping materials or other impurities, only inorganic semiconductor materials not provided for in groups H01L 29/16, H01L 29/18, H01L 29/20, H01L 29/22 (including organic materials H01L 51/00) [2] |
| H01L 29/26 | 3-Punkt Untergruppe | . . . including, apart from doping materials or other impurities, elements provided for in two or more of the groups H01L 29/16, H01L 29/18, H01L 29/20, H01L 29/22, H01L 29/24 [2] |
| H01L 29/267 | 4-Punkt Untergruppe | . . . . in different semiconductor regions [2] |
| H01L 29/30 | 2-Punkt Untergruppe | . . characterised by physical imperfections; having polished or roughened surface [2] |
| H01L 29/32 | 3-Punkt Untergruppe | . . . the imperfections being within the semiconductor body [2] |
| H01L 29/34 | 3-Punkt Untergruppe | . . . the imperfections being on the surface [2] |
| H01L 29/36 | 2-Punkt Untergruppe | . . characterised by the concentration or distribution of impurities [2] |
| H01L 29/38 | 2-Punkt Untergruppe | . . characterised by combination of features provided for in two or more of the groups H01L 29/04, H01L 29/06, H01L 29/12, H01L 29/30, H01L 29/36 [2] |
| H01L 29/40 | 1-Punkt Untergruppe | . Electrodes [2] |
| H01L 29/41 | 2-Punkt Untergruppe | . . characterised by their shape, relative sizes or dispositions [6] |
| H01L 29/417 | 3-Punkt Untergruppe | . . . carrying the current to be rectified, amplified or switched [6] |
| H01L 29/423 | 3-Punkt Untergruppe | . . . not carrying the current to be rectified, amplified or switched [6] |
| H01L 29/43 | 2-Punkt Untergruppe | . . characterised by the materials of which they are formed [6] |
| H01L 29/45 | 3-Punkt Untergruppe | . . . Ohmic electrodes [6] |
| H01L 29/47 | 3-Punkt Untergruppe | . . . Schottky barrier electrodes [6] |
| H01L 29/49 | 3-Punkt Untergruppe | . . . Metal-insulator semiconductor electrodes [6] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 29/51 | 4-Punkt Untergruppe | . . . . Insulating materials associated therewith [6] |
| H01L 29/66 | 1-Punkt Untergruppe | . Types of semiconductor device [2] |
| H01L 29/68 | 2-Punkt Untergruppe | . . controllable by only the electric current supplied, or only the electric potential applied, to an electrode which does not carry the current to be rectified, amplified, or switched (H01L 29/96 takes precedence) [2] |
| H01L 29/70 | 3-Punkt Untergruppe | . . . Bipolar devices [2] |
| H01L 29/72 | 4-Punkt Untergruppe | . . . . Transistor-type devices, i.e. able to continuously respond to applied control signals [2] |
| H01L 29/73 | 5-Punkt Untergruppe | . . . . . Bipolar junction transistors [5] |
| H01L 29/732 | 6-Punkt Untergruppe | . . . . . Vertical transistors [6] |
| H01L 29/735 | 6-Punkt Untergruppe | . . . . . Lateral transistors [6] |
| H01L 29/737 | 6-Punkt Untergruppe | . . . . . Hetero-junction transistors [6] |
| H01L 29/739 | 5-Punkt Untergruppe | . . . . . controlled by field effect [6] |
| H01L 29/74 | 4-Punkt Untergruppe | . . . . Thyristor-type devices, e.g. having four-zone regenerative action [2] |
| H01L 29/744 | 5-Punkt Untergruppe | . . . . . Gate-turn-off devices [6] |
| H01L 29/745 | 6-Punkt Untergruppe | . . . . . with turn-off by field effect [6] |
| H01L 29/747 | 5-Punkt Untergruppe | . . . . . Bidirectional devices, e.g. triacs [2] |
| H01L 29/749 | 5-Punkt Untergruppe | . . . . . with turn-on by field effect [6] |
| H01L 29/76 | 3-Punkt Untergruppe | . . . Unipolar devices [2] |
| H01L 29/762 | 4-Punkt Untergruppe | . . . . Charge transfer devices [6] |
| H01L 29/765 | 5-Punkt Untergruppe | . . . . . Charge-coupled devices [6] |
| H01L 29/768 | 6-Punkt Untergruppe | . . . . . with field effect produced by an insulated gate [6] |
| H01L 29/772 | 4-Punkt Untergruppe | . . . . Field-effect transistors [6] |
| H01L 29/775 | 5-Punkt Untergruppe | . . . . . with one-dimensional charge carrier gas channel, e.g. quantum wire FET [6] |
| H01L 29/778 | 5-Punkt Untergruppe | . . . . . with two-dimensional charge carrier gas channel, e.g. HEMT [6] |
| H01L 29/78 | 5-Punkt Untergruppe | . . . . . with field effect produced by an insulated gate [2] |
| H01L 29/786 | 6-Punkt Untergruppe | . . . . . Thin-film transistors [6] |
| H01L 29/788 | 6-Punkt Untergruppe | . . . . . with floating gate [5] |
| H01L 29/792 | 6-Punkt Untergruppe | . . . . . with charge trapping gate insulator, e.g. MNOS-memory transistor [5] |
| H01L 29/80 | 5-Punkt Untergruppe | . . . . . with field effect produced by a PN or other rectifying junction gate [2] |
| H01L 29/808 | 6-Punkt Untergruppe | . . . . . with a PN junction gate [5] |
| H01L 29/812 | 6-Punkt Untergruppe | . . . . . with a Schottky gate [5] |
| H01L 29/82 | 2-Punkt Untergruppe | . . controllable by variation of the magnetic field applied to the device (H01L 29/96 takes precedence) [2, 6] |
| H01L 29/84 | 2-Punkt Untergruppe | . . controllable by variation of applied mechanical force, e.g. of pressure (H01L 29/96 takes precedence) [2, 6] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 29/86 | 2-Punkt Untergruppe | . . controllable only by variation of the electric current supplied, or only the electric potential applied, to one or more of the electrodes carrying the current to be rectified, amplified, oscillated, or switched (H01L 29/96 takes precedence) [2] |
| H01L 29/8605 | 3-Punkt Untergruppe | . . . Resistors with PN junction [6] |
| H01L 29/861 | 3-Punkt Untergruppe | . . . Diodes [6] |
| H01L 29/862 | 4-Punkt Untergruppe | . . . . Point contact diodes [6] |
| H01L 29/864 | 4-Punkt Untergruppe | . . . . Transit-time diodes, e.g. IMPATT, TRAPATT diodes [6] |
| H01L 29/866 | 4-Punkt Untergruppe | . . . . Zener diodes [6] |
| H01L 29/868 | 4-Punkt Untergruppe | . . . . PIN diodes [6] |
| H01L 29/87 | 4-Punkt Untergruppe | . . . . Thyristor diodes, e.g. Shockley diodes, break-over diodes [6] |
| H01L 29/872 | 4-Punkt Untergruppe | . . . . Schottky diodes [6] |
| H01L 29/88 | 4-Punkt Untergruppe | . . . . Tunnel-effect diodes [2] |
| H01L 29/885 | 5-Punkt Untergruppe | . . . . . Esaki diodes [6] |
| H01L 29/92 | 3-Punkt Untergruppe | . . . Capacitors with potential-jump barrier or surface barrier [2] |
| H01L 29/93 | 4-Punkt Untergruppe | . . . . Variable-capacitance diodes, e.g. varactors [2] |
| H01L 29/94 | 4-Punkt Untergruppe | . . . . Metal-insulator-semiconductors, e.g. MOS [2] |
| H01L 29/96 | 2-Punkt Untergruppe | . . of a type covered by more than one of groups H01L 29/68, H01L 29/82, H01L 29/84 or H01L 29/86 [2] |
| ***H01L 31/00*** | ***Hauptgruppe*** | ***Semiconductor devices sensitive to infra-red radiation, light, electromagnetic radiation of shorter wavelength, or corpuscular radiation and specially adapted either for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation ; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof ; Details thereof ( H01L 51/42 takes precedence ; devices consisting of a plurality of solid state components formed in, or on, a common substrate, other than combinations of radiation-sensitive components with one or more electric light sources, H01L 27/00 ; roof covering aspects of energy collecting devices E04D 13/18 ; production of heat using solar heat F24J 2/00 ; measurement of X-radiation, gamma radiation, corpuscular radiation or cosmic radiation with semiconductor detectors G01T 1/24 , with resistance detectors G01T 1/26 ; measurement of neutron radiation with semiconductor detectors G01T 3/08 ; couplings of light guides with optoelectronic elements G02B 6/42 ; obtaining energy from radioactive sources G21H ) [2, 6, 2006.01]*** |
| H01L 31/02 | 1-Punkt Untergruppe | . Details [2] |
| H01L 31/0203 | 2-Punkt Untergruppe | . . Containers; Encapsulations [5] |
| H01L 31/0216 | 2-Punkt Untergruppe | . . Coatings [5] |
| H01L 31/0224 | 2-Punkt Untergruppe | . . Electrodes [5] |
| H01L 31/0232 | 2-Punkt Untergruppe | . . Optical elements or arrangements associated with the device [5] |
| H01L 31/0236 | 2-Punkt Untergruppe | . . Special surface textures [5] |
| H01L 31/024 | 2-Punkt Untergruppe | . . Arrangements for cooling, heating, ventilating or temperature compensation [5] |
| H01L 31/0248 | 1-Punkt Untergruppe | . characterised by their semiconductor bodies [5] |
| H01L 31/0256 | 2-Punkt Untergruppe | . . characterised by the material [5] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 31/0264 | 3-Punkt Untergruppe | . . . Inorganic materials [5] |
| H01L 31/0272 | 4-Punkt Untergruppe | . . . . Selenium or tellurium [5] |
| H01L 31/028 | 4-Punkt Untergruppe | . . . . including, apart from doping material or other impurities, only elements of the fourth group of the Periodic System [5] |
| H01L 31/0288 | 5-Punkt Untergruppe | . . . . . characterised by the doping material [5] |
| H01L 31/0296 | 4-Punkt Untergruppe | . . . . including, apart from doping material or other impurities, only $A_{II}B_{VI}$ compounds, e.g. CdS, ZnS, HgCdTe [5] |
| H01L 31/0304 | 4-Punkt Untergruppe | . . . . including, apart from doping materials or other impurities, only $A_{III}B_{V}$ compounds [5] |
| H01L 31/0312 | 4-Punkt Untergruppe | . . . . including, apart from doping materials or other impurities, only $A_{IV}B_{IV}$ compounds, e.g. SiC [5] |
| H01L 31/032 | 4-Punkt Untergruppe | . . . . including, apart from doping materials or other impurities, only compounds not provided for in groups H01L 31/0272-H01L 31/0312 [5] |
| H01L 31/0328 | 4-Punkt Untergruppe | . . . . including, apart from doping materials or other impurities, semiconductor materials provided for in two or more of groups H01L 31/0272-H01L 31/032 [5] |
| H01L 31/0336 | 5-Punkt Untergruppe | . . . . . in different semiconductor regions, e.g. $Cu_2X$/CdX hetero-junctions, X being an element of the sixth group of the Periodic System [5] |
| H01L 31/0352 | 2-Punkt Untergruppe | . . characterised by their shape or by the shapes, relative sizes or disposition of the semiconductor regions [5] |
| H01L 31/036 | 2-Punkt Untergruppe | . . characterised by their crystalline structure or particular orientation of the crystalline planes [5] |
| H01L 31/0368 | 3-Punkt Untergruppe | . . . including polycrystalline semiconductors (H01L 31/0392 takes precedence) [5] |
| H01L 31/0376 | 3-Punkt Untergruppe | . . . including amorphous semiconductors (H01L 31/0392 takes precedence) [5] |
| H01L 31/0384 | 3-Punkt Untergruppe | . . . including other non-monocrystalline materials, e.g. semiconductor particles embedded in an insulating material (H01L 31/0392 takes precedence) [5] |
| H01L 31/0392 | 3-Punkt Untergruppe | . . . including thin films deposited on metallic or insulating substrates [5] |
| H01L 31/04 | 1-Punkt Untergruppe | . adapted as conversion devices [2] |
| H01L 31/042 | 2-Punkt Untergruppe | . . including a panel or array of photoelectric cells, e.g. solar cells [5] |
| H01L 31/045 | 3-Punkt Untergruppe | . . . collapsible or foldable [5] |
| H01L 31/048 | 3-Punkt Untergruppe | . . . encapsulated or with housing [5] |
| H01L 31/05 | 3-Punkt Untergruppe | . . . characterised by special interconnection means [5] |
| H01L 31/052 | 3-Punkt Untergruppe | . . . with cooling, light-reflecting or light- concentrating means [5] |
| H01L 31/055 | 4-Punkt Untergruppe | . . . . where light is absorbed and re-emitted at a different wavelength by the concentrator, e.g. by using luminescent material [5] |
| H01L 31/058 | 3-Punkt Untergruppe | . . . including means to utilise heat energy, e.g. hybrid systems, or a supplementary source of electric energy (using solar heat in general F24J 2/00) [5] |
| H01L 31/06 | 2-Punkt Untergruppe | . . characterised by at least one potential-jump barrier or surface barrier [2] |
| H01L 31/062 | 3-Punkt Untergruppe | . . . the potential barriers being only of the metal-insulator-semiconductor type [5] |
| H01L 31/065 | 3-Punkt Untergruppe | . . . the potential barriers being only of the graded gap type [5] |
| H01L 31/068 | 3-Punkt Untergruppe | . . . the potential barriers being only of the PN homojunction type [5] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 31/07 | 3-Punkt Untergruppe | . . . the potential barriers being only of the Schottky type [5] |
| H01L 31/072 | 3-Punkt Untergruppe | . . . the potential barriers being only of the PN heterojunction type [5] |
| H01L 31/075 | 3-Punkt Untergruppe | . . . the potential barriers being only of the PIN type [5] |
| H01L 31/078 | 3-Punkt Untergruppe | . . . including potential barriers provided for in two or more of groups H01L 31/062-H01L 31/075 [5] |
| H01L 31/08 | 1-Punkt Untergruppe | . in which radiation controls flow of current through the device, e.g. photoresistors [2] |
| H01L 31/09 | 2-Punkt Untergruppe | . . Devices sensitive to infra-red, visible or ultra- violet radiation (H01L 31/101 takes precedence) [5] |
| H01L 31/10 | 2-Punkt Untergruppe | . . characterised by at least one potential-jump barrier or surface barrier, e.g. phototransistors [2] |
| H01L 31/101 | 3-Punkt Untergruppe | . . . Devices sensitive to infra-red, visible or ultra-violet radiation [5] |
| H01L 31/102 | 4-Punkt Untergruppe | . . . . characterised by only one potential barrier or surface barrier [5] |
| H01L 31/103 | 5-Punkt Untergruppe | . . . . . the potential barrier being of the PN homojunction type [5] |
| H01L 31/105 | 5-Punkt Untergruppe | . . . . . the potential barrier being of the PIN type [5] |
| H01L 31/107 | 5-Punkt Untergruppe | . . . . . the potential barrier working in avalanche mode, e.g. avalanche photodiode [5] |
| H01L 31/108 | 5-Punkt Untergruppe | . . . . . the potential barrier being of the Schottky type [5] |
| H01L 31/109 | 5-Punkt Untergruppe | . . . . . the potential barrier being of the PN heterojunction type [5] |
| H01L 31/11 | 4-Punkt Untergruppe | . . . . characterised by two potential barriers or surface barriers, e.g. bipolar phototransistor [5] |
| H01L 31/111 | 4-Punkt Untergruppe | . . . . characterised by at least three potential barriers, e.g. photothyristor [5] |
| H01L 31/112 | 4-Punkt Untergruppe | . . . . characterised by field-effect operation, e.g. junction field-effect photo- transistor [5] |
| H01L 31/113 | 5-Punkt Untergruppe | . . . . . being of the conductor-insulator- semiconductor type, e.g. metal- insulator-semiconductor field-effect transistor [5] |
| H01L 31/115 | 3-Punkt Untergruppe | . . . Devices sensitive to very short wavelength, e.g. X-rays, gamma-rays or corpuscular radiation [5] |
| H01L 31/117 | 4-Punkt Untergruppe | . . . . of the bulk effect radiation detector type, e.g. Ge-Li compensated PIN gamma-ray detectors [5] |
| H01L 31/118 | 4-Punkt Untergruppe | . . . . of the surface barrier or shallow PN junction detector type, e.g. surface barrier alpha-particle detectors [5] |
| H01L 31/119 | 4-Punkt Untergruppe | . . . . characterised by field-effect operation, e.g. MIS type detectors [5] |
| H01L 31/12 | 1-Punkt Untergruppe | . structurally associated with, e.g. formed in or on a common substrate with, one or more electric light sources, e.g. electroluminescent light sources, and electrically or optically coupled thereto (semiconductor devices with at least one potential barrier or surface barrier specially adapted for light emission H01L 33/00; amplifiers using electroluminescent element and photocell H03F 17/00; electroluminescent light sources per seH05B 33/00) [2, 5] |
| H01L 31/14 | 2-Punkt Untergruppe | . . the light source or sources being controlled by the semiconductor device sensitive to radiation, e.g. image converters, image amplifiers, image storage devices [2] |
| H01L 31/147 | 3-Punkt Untergruppe | . . . the light sources and the devices sensitive to radiation all being semiconductor devices characterised by at least one potential or surface barrier [5] |
| H01L 31/153 | 4-Punkt Untergruppe | . . . . formed in, or on, a common substrate [5] |
| H01L 31/16 | 2-Punkt Untergruppe | . . the semiconductor device sensitive to radiation being controlled by the light source or sources [2] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 31/167 | 3-Punkt Untergruppe | . . . the light sources and the devices sensitive to radiation all being semiconductor devices characterised by at least one potential or surface barrier [5] |
| H01L 31/173 | 4-Punkt Untergruppe | . . . . formed in, or on, a common substrate [5] |
| H01L 31/18 | 1-Punkt Untergruppe | . Processes or apparatus specially adapted for the manufacture or treatment of these devices or of parts thereof (for manufacture or treatment of semiconductor or solid state devices or of parts thereof in general H01L 21/00) [2] |
| H01L 31/20 | 2-Punkt Untergruppe | . . such devices or parts thereof comprising amorphous semiconductor material [5] |
| ***H01L 33/00*** | ***Hauptgruppe*** | ***Semiconductor devices with at least one potential-jump barrier or surface barrier specially adapted for light emission, e.g. infra-red ; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof ; Details thereof ( H01L 51/50 takes precedence ; devices consisting of a plurality of components formed in or on a common substrate H01L 27/00 ; couplings of light guides with optoelectronic elements G02B 6/42 ; semiconductor lasers H01S 5/00 ; electroluminescent light sources per se H05B 33/00 ) [2, 2006.01]*** |
| **H01L 35/00** | **Hauptgruppe** | **Thermoelectric devices comprising a junction of dissimilar materials, i.e. exhibiting Seebeck or Peltier effect with or without other thermoelectric effects or thermomagnetic effects; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof; Details thereof (devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00; refrigerating machines using electric or magnetic effects F25B 21/00; measuring temperature based on thermoelectric or thermomagnetic elements G01K 7/00; obtaining energy from radioactive sources G21H) [2]** |
| H01L 35/02 | 1-Punkt Untergruppe | . Details [2] |
| H01L 35/04 | 2-Punkt Untergruppe | . . Structural details of the junction; Connections of leads [2] |
| H01L 35/06 | 3-Punkt Untergruppe | . . . detachable, e.g. using a spring [2] |
| H01L 35/08 | 3-Punkt Untergruppe | . . . non-detachable, e.g. cemented, sintered, soldered [2] |
| H01L 35/10 | 3-Punkt Untergruppe | . . . Connections of leads [2] |
| H01L 35/12 | 1-Punkt Untergruppe | . Selection of the material for the legs of the junction [2] |
| H01L 35/14 | 2-Punkt Untergruppe | . . using inorganic compositions [2] |
| H01L 35/16 | 3-Punkt Untergruppe | . . . comprising tellurium or selenium or sulfur [2] |
| H01L 35/18 | 3-Punkt Untergruppe | . . . comprising arsenic or antimony or bismuth (H01L 35/16 takes precedence) [2] |
| H01L 35/20 | 3-Punkt Untergruppe | . . . comprising metals only (H01L 35/16, H01L 35/18 take precedence) [2] |
| H01L 35/22 | 3-Punkt Untergruppe | . . . comprising compounds containing boron, carbon, oxygen, or nitrogen [2] |
| H01L 35/24 | 2-Punkt Untergruppe | . . using organic compositions [2] |
| H01L 35/26 | 2-Punkt Untergruppe | . . using compositions changing continuously or discontinuously inside the material [2] |
| H01L 35/28 | 1-Punkt Untergruppe | . operating with Peltier or Seebeck effect only [2] |
| H01L 35/30 | 2-Punkt Untergruppe | . . characterised by the heat-exchanging means at the junction [2] |
| H01L 35/32 | 2-Punkt Untergruppe | . . characterised by the structure or configuration of the cell or thermo-couple forming the device [2] |
| H01L 35/34 | 1-Punkt Untergruppe | . Processes or apparatus specially adapted for the manufacture or treatment of these devices or of parts thereof (for manufacture or treatment of semiconductor or solid state devices or of parts thereof in general H01L 21/00) [2] |
| **H01L 37/00** | **Hauptgruppe** | **Thermoelectric devices without a junction of dissimilar materials; Thermomagnetic devices, e.g. using Nernst-Ettinghausen effect; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof (devices consisting of a plurality of solid state** |

| Symbol | Typ | Titel |
|---|---|---|
| | | **components formed in or on a common substrate H01L 27/00; measuring temperature based on thermoelectric or thermomagnetic elements G01K 7/00; selection of materials for magnetography, e.g. for Curie-point writing, G03G 5/00) [2]** |
| H01L 37/02 | 1-Punkt Untergruppe | . using thermal change of dielectric constant, e.g. working above and below the Curie point [2] |
| H01L 37/04 | 1-Punkt Untergruppe | . using thermal change of magnetic permeability, e.g. working above and below the Curie point [2] |
| **H01L 39/00** | **Hauptgruppe** | **Devices using superconductivity or hyperconductivity; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof (devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00; superconductors characterised by the ceramic-forming technique or the ceramic composition C04B 35/00; superconductive or hyperconductive conductors, cables, or transmission lines H01B 12/00; superconductive coils or windings H01F; amplifiers using superconductivity H03F 19/00) [2, 4]** |
| H01L 39/02 | 1-Punkt Untergruppe | . Details [2] |
| H01L 39/04 | 2-Punkt Untergruppe | . . Containers; Mountings [2] |
| H01L 39/06 | 2-Punkt Untergruppe | . . characterised by the current path [2] |
| H01L 39/08 | 2-Punkt Untergruppe | . . characterised by the shape of the element [2] |
| H01L 39/10 | 2-Punkt Untergruppe | . . characterised by the means for switching [2] |
| H01L 39/12 | 2-Punkt Untergruppe | . . characterised by the material [2] |
| H01L 39/14 | 1-Punkt Untergruppe | . Permanent superconductor devices [2] |
| H01L 39/16 | 1-Punkt Untergruppe | . Devices switchable between superconductive and normal states [2] |
| H01L 39/18 | 2-Punkt Untergruppe | . . Cryotrons [2] |
| H01L 39/20 | 3-Punkt Untergruppe | . . . Power cryotrons [2] |
| H01L 39/22 | 1-Punkt Untergruppe | . Devices comprising a junction of dissimilar materials, e.g. Josephson-effect devices [2] |
| H01L 39/24 | 1-Punkt Untergruppe | . Processes or apparatus specially adapted for the manufacture or treatment of devices provided for in group H01L 39/00 or of parts thereof (for manufacture or treatment of semiconductor or solid state devices or of parts thereof in general H01L 21/00; magnetic separation of superconductive materials from other materials, e.g. using Meissner effect, B03C 1/00) [2] |
| **H01L 41/00** | **Hauptgruppe** | **Piezo-electric elements in general; Electrostrictive elements in general; Magnetostrictive elements in general; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof; Details thereof (devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00) [2]** |
| H01L 41/02 | 1-Punkt Untergruppe | . Details [2] |
| H01L 41/04 | 2-Punkt Untergruppe | . . of piezo-electric or electrostrictive elements [2] |
| H01L 41/047 | 3-Punkt Untergruppe | . . . Electrodes [6] |
| H01L 41/053 | 3-Punkt Untergruppe | . . . Mounts, supports, enclosures or casings [6] |
| H01L 41/06 | 2-Punkt Untergruppe | . . of magnetostrictive elements [2] |
| H01L 41/08 | 1-Punkt Untergruppe | . Piezo-electric or electrostrictive elements [2] |
| H01L 41/083 | 2-Punkt Untergruppe | . . having a stacked or multilayer structure [6] |
| H01L 41/087 | 2-Punkt Untergruppe | . . formed as coaxial cables [6] |
| H01L 41/09 | 2-Punkt Untergruppe | . . with electrical input and mechanical output [5] |
| H01L 41/107 | 2-Punkt Untergruppe | . . with electrical input and electrical output [5] |

| Symbol | Typ | Titel |
|---|---|---|
| H01L 41/113 | 2-Punkt Untergruppe | . . with mechanical input and electrical output [5] |
| H01L 41/12 | 1-Punkt Untergruppe | . Magnetostrictive elements [2] |
| H01L 41/16 | 1-Punkt Untergruppe | . Selection of materials [2] |
| H01L 41/18 | 2-Punkt Untergruppe | . . for piezo-electric or electrostrictive elements [2] |
| H01L 41/187 | 3-Punkt Untergruppe | . . . Ceramic compositions [5] |
| H01L 41/193 | 3-Punkt Untergruppe | . . . Macromolecular compositions [5] |
| H01L 41/20 | 2-Punkt Untergruppe | . . for magnetostrictive elements [2] |
| H01L 41/22 | 1-Punkt Untergruppe | . Processes or apparatus specially adapted for the manufacture or treatment of these elements or of parts thereof (for manufacture or treatment of semiconductor or solid state devices or of parts thereof in general H01L 21/00) [2] |
| H01L 41/24 | 2-Punkt Untergruppe | . . of elements of ceramic composition [5] |
| H01L 41/26 | 2-Punkt Untergruppe | . . of elements of macromolecular composition [5] |
| **H01L 43/00** | **Hauptgruppe** | **Devices using galvano-magnetic or similar magnetic effects; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof (devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00; devices with potential-jump barrier or surface barrier controllable by variation of a magnetic field H01L 29/82) [2]** |
| H01L 43/02 | 1-Punkt Untergruppe | . Details [2] |
| H01L 43/04 | 2-Punkt Untergruppe | . . of Hall-effect devices [2] |
| H01L 43/06 | 1-Punkt Untergruppe | . Hall-effect devices [2] |
| H01L 43/08 | 1-Punkt Untergruppe | . Magnetic-field-controlled resistors [2] |
| H01L 43/10 | 1-Punkt Untergruppe | . Selection of materials [2] |
| H01L 43/12 | 1-Punkt Untergruppe | . Processes or apparatus specially adapted for the manufacture or treatment of these devices or of parts thereof (for manufacture or treatment of semiconductor or solid state devices or of parts thereof in general H01L 21/00) [2] |
| H01L 43/14 | 2-Punkt Untergruppe | . . for Hall-effect devices [2] |
| **H01L 45/00** | **Hauptgruppe** | **Solid state devices specially adapted for rectifying, amplifying, oscillating, or switching without a potential-jump barrier or surface barrier, e.g. dielectric triodes; Ovshinsky-effect devices; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof (devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00; devices using superconductivity or hyperconductivity H01L 39/00; piezo-electric elements H01L 41/00; bulk negative resistance effect devices H01L 47/00) [2]** |
| H01L 45/02 | 1-Punkt Untergruppe | . Solid state travelling-wave devices [2] |
| **H01L 47/00** | **Hauptgruppe** | **Bulk negative resistance effect devices, e.g. Gunn-effect devices; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof (devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00) [2]** |
| H01L 47/02 | 1-Punkt Untergruppe | . Gunn-effect devices [2] |
| ***H01L 49/00*** | ***Hauptgruppe*** | ***Solid state devices not provided for in groups H01L 27/00-H01L 47/00 and H01L 51/00 and not provided for in any other subclass ; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof ( devices consisting of a plurality of solid state devices formed in or on a common substrate H01L 27/00 ) [2, 2006.01]*** |
| H01L 49/02 | 1-Punkt Untergruppe | . Thin-film or thick-film devices [2] |
| ***H01L 51/00*** | ***Hauptgruppe*** | ***Solid state devices using organic materials as the active part, or using a combination of organic*** |

| Symbol | Typ | Titel |
|---|---|---|
| | | ***materials with other materials as the active part ; Processes or apparatus specially adapted for the manufacture or treatment of such devices, or of parts thereof ( devices consisting of a plurality of components formed in or on a common substrate H01L 27/28 ; thermoelectric devices using organic material H01L 35/00 , H01L 37/00 ; piezo-electric, electrostrictive or magnetostrictive elements using organic material H01L 41/00 ) [6, 2006.01]*** |
| *H01L 51/05* | *1-Punkt Untergruppe* | *. specially adapted for rectifying, amplifying, oscillating or switching and having at least one potential-jump barrier or surface barrier ; Capacitors or resistors with at least one potential-jump barrier or surface barrier [2006.01]* |
| H01L 51/10 | 2-Punkt Untergruppe | . . Details of devices [6] |
| H01L 51/20 | Gelöscht | (transferred to H01L 51/05; H01L 51/42; H01L 51/50) |
| H01L 51/30 | 2-Punkt Untergruppe | . . Selection of materials [6] |
| *H01L 51/40* | *2-Punkt Untergruppe* | *. . Processes or apparatus specially adapted for the manufacture or treatment of such devices or of parts thereof [6, 2006.01]* |
| *H01L 51/42* | *1-Punkt Untergruppe* | *. specially adapted for sensing infra-red radiation, light, electromagnetic radiation of shorter wavelength, or corpuscular radiation ; specially adapted either for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation [2006.01]* |
| *H01L 51/44* | *2-Punkt Untergruppe* | *. . Details of devices [2006.01]* |
| *H01L 51/46* | *2-Punkt Untergruppe* | *. . Selection of materials [2006.01]* |
| *H01L 51/48* | *2-Punkt Untergruppe* | *. . Processes or apparatus specially adapted for the manufacture or treatment of such devices or of parts thereof [2006.01]* |
| *H01L 51/50* | *1-Punkt Untergruppe* | *. specially adapted for light emission, e.g. organic light emitting diodes (OLED) or polymer light emitting devices (PLED) ( organic semiconductor lasers H01S 5/36 ) [2006.01]* |
| *H01L 51/52* | *2-Punkt Untergruppe* | *. . Details of devices [2006.01]* |
| *H01L 51/54* | *2-Punkt Untergruppe* | *. . Selection of materials ( organic luminescent materials C09K 11/06 ) [2006.01]* |
| *H01L 51/56* | *2-Punkt Untergruppe* | *. . Processes or apparatus specially adapted for the manufacture or treatment of such devices or of parts thereof [2006.01]* |