EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1593

DATE: JANUARY 1, 2024

PROJECT MP12194

The following classification changes will be effected by this Notice of Changes:

Action	**Subclass**	**Group(s)**
SCHEME:		
Titles Changed:	H10K	59/95
DEFINITIONS:		
Definitions New:	H10K	SUBCLASS
	H10K	10/00, 10/20, 10/46, 19/00
	H10K	30/00, 39/00
	H10K	50/00, 59/00, 59/10
	H10K	65/00
	H10K	71/00, 77/00
	H10K	85/00
Definitions Modified:	G09G	3/3208

No other subclasses/groups are impacted by this Notice of Changes.

This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES
   - ☒ A. New, Modified or Deleted Group(s)
   - ☐ B. New, Modified or Deleted Warning(s)
   - ☐ C. New, Modified or Deleted Note(s)
   - ☐ D. New, Modified or Deleted Guidance Heading(s)
2. DEFINITIONS
   - ☒ A. New or Modified Definitions (Full definition template)
   - ☐ B. Modified or Deleted Definitions (Definitions Quick Fix)
3. ☐ REVISION CONCORDANCE LIST (RCL)
4. ☐ CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
5. ☐ CHANGES TO THE CROSS-REFERENCE LIST (CRL)

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1. CLASSIFICATION SCHEME CHANGES

A. New, Modified or Deleted Group(s)

SUBCLASS H10K - ORGANIC ELECTRIC SOLID-STATE DEVICES

Type*	Symbol	Indent Level Number of dots (e.g. 0, 1, 2)	Title "CPC only" text should normally be enclosed in {curly brackets}**	Transferred to#
M	H10K59/95	2	wherein all light-emitting elements are organic, e.g. assembled OLED displays	

*N = new entries where reclassification into entries is involved; C = entries with modified file scope where reclassification of documents from the entries is involved; Q = new entries which are firstly populated with documents via administrative transfers from deleted (D) entries. Afterwards, the transferred documents into the Q entry will either stay or be moved to more appropriate entries, as determined by intellectual reclassification; T = existing entries with enlarged file scope, which receive documents from C or D entries, e.g. when a limiting reference is removed from the entry title; M = entries with no change to the file scope (no reclassification); D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed; U = entries that are unchanged.

NOTES:

- **No {curly brackets} are used for titles in CPC only subclasses, e.g. C12Y, A23Y; 2000 series symbol titles of groups found at the end of schemes (orthogonal codes); or the Y section titles. The {curly brackets} are used for 2000 series symbol titles found interspersed throughout the main trunk schemes (breakdown codes).
- U groups: it is obligatory to display the required "anchor" symbol (U group), i.e. the entry immediately preceding a new group or an array of new groups to be created (in case new groups are not clearly subgroups of C-type groups). Always include the symbol, indent level and title of the U group in the table above.
- All entry types should be included in the scheme changes table above for better understanding of the overall scheme change picture. Symbol, indent level, and title are required for all types.
- "Transferred to" column must be completed for all C, D, F, and Q type entries. F groups will be deleted once reclassification is completed.
- When multiple symbols are included in the "Transferred to" column, avoid using ranges of symbols in order to be as precise as possible.
- For administrative transfer of documents, the following text should be used: "<administrative transfer to XX>", "<administrative transfer to XX and YY simultaneously>", or "<administrative transfer to XX, YY, ...and ZZ simultaneously>" when administrative transfer of the same documents is to more than one place.
- Administrative transfer to main trunk groups is assumed to be the source allocation type, unless otherwise indicated.
- Administrative transfer to 2000/Y series groups is assumed to be "additional information".
- If needed, instructions for allocation type should be indicated within the angle brackets using the abbreviations "ADD" or "INV": <administrative transfer to XX ADD> , <administrative transfer to XX INV>, or <administrative transfer to XX ADD, YY INV, ... and ZZ ADD simultaneously>.
- In certain situations, the "D" entries of 2000-series or Y-series groups may not require a destination ("Transferred to") symbol, however it is required to specify "<no transfer>" in the "Transferred to" column for such cases.
- For finalization projects, the deleted "F" symbols should have <no transfer> in the "Transferred to" column.
- For more details about the types of scheme change, see CPC Guide.

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*N = new warning, M = modified warning, D = deleted warning

NOTE: The "Location" column only requires the symbol PRIOR to the location of the warning. No further directions such as "before" or "after" are required.

2. A. DEFINITIONS (new)

H10K

Definition statement

This place covers:

Electric solid-state devices having organic materials as the active layers, or using a combination of organic materials and other materials as the active layers.

This includes the following kind of devices:

- organic devices specially adapted for rectifying, amplifying, oscillating or switching, or capacitors or resistors having potential barriers, e.g. organic transistors or organic diodes;
- organic devices that are sensitive to infrared radiation, light, electromagnetic radiation of shorter wavelength or corpuscular radiation, e.g. organic solar cells or organic photodiodes;
- organic light-emitting devices, e.g. organic light-emitting diodes or organic light-emitting transistors.

Processes and apparatus specially adapted for the manufacture or treatment of such devices.

Organic materials used in active layers, layers having high carrier mobility or electrodes of devices covered by this subclass.

References

Limiting references

This place does not cover:

Organic resistors without potential barriers and not being specially adapted for integrated devices	H01C
Organic capacitors, e.g. organic polymer capacitors, without potential barriers and not being specially adapted for integrated devices	H01G
Organic electronic memory devices	H10B
Organic thermoelectric devices; Organic thermomagnetic devices	H10N 10/00, H10N 15/00, H10N 19/00

Organic piezoelectric or electrostrictive devices	H10N 30/00, H10N 39/00
Organic magnetostrictive devices	H10N 35/00, H10N 39/00
Organic galvanomagnetic or Hall-effect devices	H10N 50/00, H10N 52/00, H10N 59/00
Organic superconducting devices	H10N 60/00, H10N 69/00
Organic solid-state devices without potential barriers, and specially adapted for rectifying, amplifying, oscillating or switching	H10N 70/00, H10N 79/00

References out of a residual place

Examples of places in relation to which this place is residual:

Organic magnets, inductors or transformers	H01F
Organic electrolytic devices	H01G 9/00
Organic batteries	H01M
Organic waveguides	H01P

Informative references

Attention is drawn to the following places, which may be of interest for search:

Use of organic solid-state devices for measuring	G01
Control arrangements or circuits for electroluminescent panels comprising organic light-emitting diodes [OLED]	G09G 3/3208
Organic electromechanical resonators	H03H
Organic loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers, e.g. organic piezoelectric microphones	H04R
Organic printed circuits, hybrid circuits, casings or constructional details thereof	H05K

Special rules of classification

The scheme covers five main aspects: (a) devices, e.g. components, are covered by groups H10K 10/00, H10K 30/00 and H10K 50/00 (b) integrated devices and

assemblies of multiple devices are covered by the groups H10K 19/00, H10K 39/00, H10K 59/00 and H10K 65/00, (c) processes and apparatus that are specially adapted for manufacturing or treating a device are covered in H10K 71/00, (d) constructional details that may be generic to the devices of the subclass are covered in H10K 77/00, (e) organic materials used in active layers, in layers having high carrier mobility, and in electrodes are covered in H10K 85/00.

Determination should be made as which of the five aspect(s) is/are inventive. Classification of the inventive aspect(s) should be made using inventive allocation in the appropriate part(s) of the scheme. Classification of the remaining aspects should then be made using additional allocation only if disclosed in specific embodiments, e.g. a concrete device embodiment, or a synthesis method.

In this subclass, the periodic system used is the I to VIII group system indicated in the periodic table under Note (3) of section C.

Glossary of Terms

In this place, the following terms or expressions are used with the meaning indicated:

active material	The material within which the physical effects that are characteristic of the device occur.
auxiliary electrode	One part of a multilayered electrode, often being metallic and intended to increase the conductivity of transparent oxide electrodes.
coordination compound	A material having a chemical structure in which a central atom is chemically bonded to surrounding nonmetal atoms or groups of atoms. The central atom may be a metal atom or may be a metalloid (e.g. B, Si, Ge, As, Sb, Te, or Po).
dopant	The atoms or compounds added to a material during doping.
doping	Intentionally adding a small quantity of atoms or compounds into a material to alter its physical or electrical properties.
electroluminescent layer, emissive layer	The layer within which electrons and holes combine, resulting in light emission.
organic device	A device that comprises one or more organic materials as the active material, e.g. using only organic active materials or e.g. using a combination of an organic material and another material.

radiation-sensitive	Refers to a device or a component that is sensitive to infrared radiation, light, electromagnetic radiation of shorter wavelength or corpuscular radiation.
tandem OLED	An OLED that comprises multiple electroluminescent units between one set of electrodes and a charge generation layer between the electroluminescent units.
tandem PV cell	A photovoltaic cell that comprises multiple stacked photovoltaic units, e.g. p-n junctions, between one set of electrodes. Often each unit is made from a semiconductor of different bandgap energy, so each is sensitive to a different part of the electromagnetic spectrum.
terminal	The electrode or interconnection within a device, which serves as a connecting point between electrodes or interconnections within the device and interconnections that may be in the device's package or may be external to the device. An example is a bond pad on the cathode of an OLED, which may connect between the cathode electrode and a bonding wire in the OLED's package.
tiled display	A display that comprises a juxtaposition of smaller interconnected panels in order to achieve a large-area display.

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

CCM	Colour changing material
EBL	Electron blocking layer
EIL	Electron injection layer
EL	Electroluminescent; or electroluminescent layer
ETL	Electron transporting layer
FTO	Fluorine doped tin oxide
HBL	Hole blocking layer
HIL	Hole injection layer
HOIP	Hybrid organic-inorganic perovskite
HOMO	Highest occupied molecular orbital
HTL	Hole transporting layer
ITO	Indium tin oxide

LEC	Light-emitting electrochemical cell
LUMO	Lowest unoccupied molecular orbital
OEL	Organic electroluminescent layer
OLED	Organic light-emitting diode
OTFT	Organic thin-film transistor
PLED	Polymer light-emitting diode
RGB	Red Green Blue
RGBW	Red Green Blue White
TCO	Transparent conductive oxide

H10K 10/00

Definition statement

This place covers:

Organic devices wherein an electrical input is rectified, amplified, oscillated or switched;

Active resistors or capacitors using organic materials as the active layers, or using a combination of organic materials with other material as the active layers.

Examples include:

- Organic variable resistors
- Organic variable capacitors
- Organic diodes
- Organic transistors

References

Limiting references

This place does not cover:

Organic integrated devices, or assemblies of multiple devices	H10K 19/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Manufacture or treatment specially adapted for organic devices	H10K 71/00
Constructional details generally applicable to all organic solid-state devices, not covered by this group	H10K 77/00
Organic material used in active layers, in layers having high carrier mobility, or in electrodes	H10K 85/00
Inorganic devices specially adapted for rectifying, amplifying, oscillating or switching; Inorganic capacitors or resistors having potential barriers	H01L 29/00

H10K 10/20

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Organic light-sensitive diodes	H10K 30/10, H10K 30/20, H10K 30/30, H10K 30/40
Organic light-emitting diodes	H10K 50/10

H10K 10/46

References

Limiting references

This place does not cover:

Bipolar transistors, e.g. organic bipolar junction transistors [OBJTs]	H10K 10/43

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

CHEMFETs	G01N 27/414

Informative references

Attention is drawn to the following places, which may be of interest for search:

Organic light-sensitive transistors	H10K 30/65
Organic light-emitting transistors	H10K 50/30
Organic thin film transistors in an organic light-emitting display	H10K 59/125

H10K 19/00

Definition statement

This place covers:

Integrated devices comprising at least one organic component specially adapted for rectifying, amplifying, oscillating or switching.

Assemblies of multiple devices, comprising at least one organic device specially adapted for rectifying, amplifying, oscillating or switching.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Individual organic devices specially adapted for rectifying, amplifying, oscillating or switching	H10K 10/00
Organic light-emitting display comprising organic thin film transistors	H10K 59/125
Manufacture or treatment specially adapted for organic devices	H10K 71/00
Constructional details generally applicable to all organic solid-state devices, not covered by this group	H10K 77/00
Integrated devices comprising inorganic components specially adapted for rectifying, amplifying, oscillating or switching	H01L 27/02

H10K 30/00

Definition statement

This place covers:

Devices specially adapted for sensing infra-red radiation, light, electro-magnetic radiation of shorter wavelength or corpuscular radiation and adapted for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation using organic materials as the active layers, or using a combination of organic materials with other material as the active layers.

Examples include:

- Organic solar cells
- Organic photodiodes
- Organic phototransistors
- Organic photoresistors or photoconductors

H10K 30/50 - H10K 30/57 specifically cover photovoltaic cells. H10K 30/60 - H10K 30/65 specifically cover photodiodes, photoresistors and phototransistors. H10K 30/10 - H10K 30/451 cover structural or junction aspects of photovoltaic cells, photodiodes, photoresistors and phototransistors.

References

Limiting references

This place does not cover:

Organic integrated devices, or assemblies of multiple devices	H10K 39/00, H10K 65/00
Electrolytic light-sensitive devices	H01G 9/20

Informative references

Attention is drawn to the following places, which may be of interest for search:

Organic light-emitting devices	H10K 50/00
Manufacture or treatment specially adapted for organic devices	H10K 71/00
Constructional details generally applicable to all organic solid-state devices, not covered by this group	H10K 77/00

Organic material used in active layers, in layers having high carrier mobility, or in electrodes	H10K 85/00
Inorganic radiation-sensitive devices	H01L 31/00

H10K 39/00

Definition statement

This place covers:

- Integrated devices comprising at least one component specially adapted for sensing infra-red radiation, light, electro-magnetic radiation of shorter wavelength or corpuscular radiation and adapted for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation using organic materials as the active layers, or using a combination of organic materials with other material as the active layers; and
- Assemblies of multiple devices, comprising at least one device specially adapted for sensing infra-red radiation, light, electro-magnetic radiation of shorter wavelength or corpuscular radiation and adapted for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation using organic materials as the active layers, or using a combination of organic materials with other material as the active layers.

Such as:

- Integrated devices comprising organic solar cells
- Organic photovoltaic modules
- Organic image sensors (imager structures)
- Organic X-ray detectors

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Integrated devices, e.g. driving circuitry, comprising organic components specially adapted for rectifying, amplifying, oscillating or switching	H10K 19/00
Individual organic radiation-sensitive components of these integrated devices	H10K 30/00

Organic optocouplers	H10K 65/00
Manufacture or treatment specially adapted for organic devices	H10K 71/00
Constructional details generally applicable to all organic solid-state devices, not covered by this group	H10K 77/00
Integrated devices, e.g. driving circuitry, comprising inorganic components specially adapted for rectifying, amplifying, oscillating or switching	H01L 27/02
Integrated devices comprising inorganic radiation-sensitive components	H01L 27/14
Integrated devices comprising inorganic photovoltaic cells	H01L 27/142
Integrated devices comprising at least one inorganic radiation-sensitive element in which radiation controls the flow of current through the element such as photodiode arrays, e.g. inorganic CCDs	H01L 27/144

H10K 50/00

Definition statement

This place covers:

Organic electrical-light transducers wherein an electrical input is converted to a light output, such as organic light-emitting diodes [OLED] or organic light-emitting transistors.

References

Limiting references

This place does not cover:

Organic integrated devices, or assemblies of multiple devices	H10K 59/00, H10K 65/00
Organic semiconductor lasers	H01S 5/36

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Lighting devices for vehicle interior	B60Q 3/00

Light sources using semiconductor devices as light-generating elements, e.g. using light-emitting diodes [LED] or lasers	F21K 9/00
Lighting devices intended for fixed installation	F21S 8/00
Illumination devices for LCDs	G02F 1/1336
Indicating arrangements making use of semiconductor devices	G09F 9/33
Illuminated signs	G09F 13/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Manufacture or treatment specially adapted for organic devices	H10K 71/00
Constructional details generally applicable to all organic solid-state devices, not covered by this group	H10K 77/00
Organic material used in active layers, in layers having high carrier mobility or in electrodes	H10K 85/00
Luminescent or electroluminescent materials	C09K 11/00
Light sources using luminescence, e.g. lamps based on OLEDs	F21K 2/00
Details of lighting devices, of general application	F21V
Control arrangements or circuits, of interest only in connection with visual indicators other than cathode-ray tubes, e.g. control arrangements for OLED displays	G09G 3/00
Inorganic light-emitting diodes	H01L 33/00
Electroluminescent light sources	H05B 33/00

Synonyms and Keywords

In patent documents, the following abbreviations are often used:

EL	Electroluminescent, electroluminescent layer
OEL	Organic electroluminescent layer
EIL	Electron injection layer
HIL	Hole injection layer
ETL	Electron transporting layer

HTL	Hole transporting layer
EBL	Electron blocking layer
HBL	Hole blocking layer
LEC	Light-emitting electrochemical cells
OLED	Organic light-emitting diode
TOLED	Transparent OLED
AMOLED display	Active matrix OLED display
PMOLED display	Passive matrix OLED display
OTFT	Organic thin film transistor
TFT	Thin film transistor
CCM	Colour changing medium
RGB	Red Green Blue
RGBW	Red Green Blue White

H10K 59/00

Definition statement

This place covers:

Integrated devices that comprise at least one organic light-emitting component;

Assemblies of multiple devices, comprising at least one organic light-emitting device.

Examples include:

- Arrays of organic light-emitting diodes [OLEDs], e.g. OLED display
- An OLED integrated with a MOSFET

H10K 59/10 covers only OLED displays, whereas H10K 59/30 - H10K 59/90 cover both displays and non-displays.

References

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Lighting devices for vehicle interior	B60Q 3/00
Lighting devices intended for fixed installation	F21S 8/00
Light sources using semiconductor devices as light-generating elements, e.g. using light-emitting diodes [LED] or lasers	F21K 9/00
Illumination devices, e.g. backlights, for LCDs	G02F 1/1336
Indicating arrangements making use of semiconductor devices	G09F 9/33
Illuminated signs	G09F 13/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Individual organic light-emitting components of these integrated devices	H10K 50/00
Integrated devices comprising at least one organic light-emitting component and at least one organic radiation-sensitive component, e.g. organic opto-couplers	H10K 65/00
Manufacture or treatment specially adapted for organic devices	H10K 71/00
Constructional details generally applicable to all organic solid-state devices, not covered by this group	H10K 77/00
Luminescent, e.g. electroluminescent materials	C09K 11/00
Light sources using luminescence, e.g. lamps based on OLEDs	F21K 2/00
Details of lighting devices, of general application	F21V
Liquid crystal displays [LCD]	G02F 1/133
Control arrangements or circuits, of interest only in connection with visual indicators other than cathode-ray tubes, e.g. control arrangements for OLED displays	G09G 3/00
Plasma displays	H01J 11/00
Field emission displays	H01J 31/00
Integrated devices comprising inorganic light-emitting components, e.g. LED displays	H01L 27/15

Electroluminescent light sources	H05B 33/00
Circuit arrangements for operating LEDs comprising organic material	H05B 45/60

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

OLED display	Organic light emitting diode display
TOLED display	Transparent OLED display
AMOLED display	Active matrix OLED display
PMOLED display	Passive matrix OLED display
OTFT array	Organic thin film transistor array
TFT array	Thin film transistor array
CCM	Colour changing medium
RGB	Red Green Blue
RGBW	Red Green Blue White

H10K 59/10

Relationships with other classification places

H10K 59/10 covers only OLED displays. H10K 59/30 - H10K 59/90 cover displays, non-display integrated devices and non-display assemblies of multiple devices.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Control arrangements for OLED displays	G09G 3/3208
TFT arrays, per se	H01L 27/1214

H10K 65/00

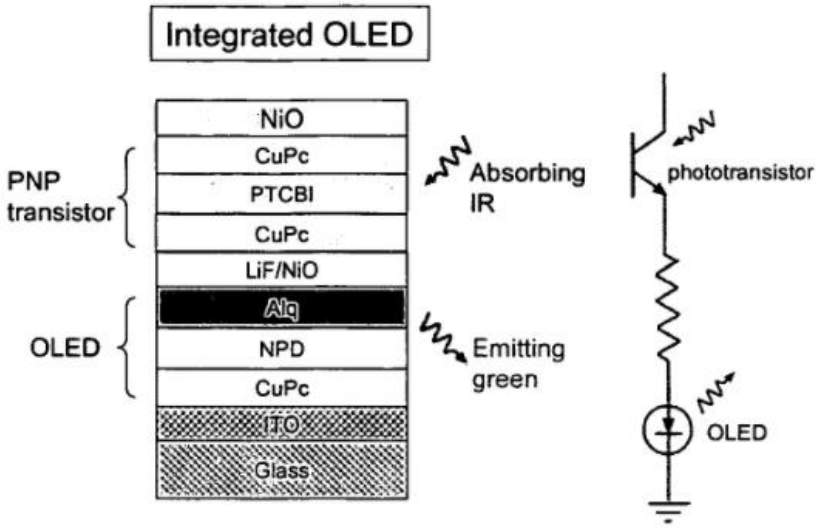
Definition statement

This place covers:

Integrated devices comprising at least one organic light-emitting component and at least one organic radiation-sensitive component, e.g. organic optocouplers;

Assemblies of multiple devices, comprising at least one organic light-emitting device and at least one organic radiation-sensitive device, e.g. organic optocouplers

Example:



The example shows a combination of an organic phototransistor with an OLED.

References

Limiting references

This place does not cover:

Organic image sensors integrated with organic light-emitting diodes	H10K 39/34
OLED displays integrated with photosensors	H10K 59/13

Informative references

Attention is drawn to the following places, which may be of interest for search:

Individual organic radiation-sensitive components of these integrated devices	H10K 30/00
Individual organic light-emitting components of these integrated devices	H10K 50/00
Manufacture or treatment specially adapted for organic devices	H10K 71/00
Constructional details generally applicable to all organic solid-state devices, not covered by this group	H10K 77/00
Inorganic optocouplers	H01L 31/12

H10K 71/00

Definition statement

This place covers:

Processes or apparatus specially adapted for the formation of organic solid-state devices, including the formation, patterning or treatment of the organic materials used in active layers, in layers having high carrier mobility or in electrodes of an organic solid-state device.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Spraying apparatus	B05B 7/00
Processes for applying liquids or other fluent materials	B05D 1/00
Ink jet printers	B41J 2/01
Printing processes to produce particular kinds of printed work	B41M 3/00
Surface treatment of glass substrates by at least two coatings	C03C 17/34
Joining glass to inorganic material or glass	C03C 27/00
Etching, surface-brightening or pickling compositions	C09K 13/00
Chemical coating by decomposition of gaseous compounds	C23C 16/00
Coating by vacuum evaporation, sputtering or by ion	C23C 14/00

implantation of the coating forming material	
Photomechanical, e.g. photolithographic, production of textured or patterned surfaces	G03F 7/00
Manufacture or treatment for semiconductor devices	H01L21/00

H10K 77/00

Definition statement

This place covers:

This place covers details that are generic or generally applicable to all device types of H10K, e.g. transparent or flexible substrates.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Constructional details specific to organic devices specially adapted for rectifying, amplifying, oscillating or switching, or organic capacitors or resistors having potential barriers	H10K 10/80
Constructional details specific to organic radiation-sensitive devices	H10K 30/80
Constructional details specific to organic light-emitting devices	H10K 50/80
Conductors or conductive bodies characterised by the conductive materials	H01B 1/00
Insulators or insulating bodies characterised by the insulating materials	H01B 3/00

H10K 85/00

Definition statement

This place covers:

Organic materials in devices of this subclass, selected for their electrical or other properties, and used in

- Active layers, e.g. channel layers or light-emitting layers
- Layers having high carrier mobility, e.g. electron or hole transport layers
- Electrodes

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Carbon; Compounds thereof, e.g. Fullerenes	C01B 32/00
Cyclic hydrocarbons containing rings other than, or in addition to, six-membered aromatic rings	C07C 13/00
Cyclic hydrocarbons containing only six-membered aromatic rings as cyclic parts	C07C 15/00
Ketones; Ketenes	C07C 49/00
Quinones	C07C 50/00
Compounds containing amino groups bound to a carbon skeleton	C07C 211/00
Heterocyclic compounds	C07D
Macromolecular compounds obtained by reactions forming a carbon-to-carbon link in the main chain of the macromolecule	C08G 61/00
Macromolecular compounds obtained by reactions forming a linkage containing nitrogen with or without oxygen or carbon in the main chain of the macromolecule	C08G 73/00
Dyes with anthracene nucleus not condensed with any other ring	C09B 1/00
Dyes with an anthracene nucleus condensed with one or more carbocyclic rings	C09B 3/00
Dyes with an anthracene nucleus condensed with one or more heterocyclic rings with or without carbocyclic rings	C09B 5/00

Acridine dyes	C09B 15/00
Methine or polymethine dyes, e.g. cyanine dyes	C09B 23/00
Porphines; Azaporphines	C09B 47/00
Quinacridones	C09B 48/00
Dyes of natural origin prepared from natural sources, e.g. vegetable sources	C09B 61/00
Luminescent, e.g. electroluminescent, chemoluminescent materials	C09K 11/00
Etching, surface-brightening or pickling compositions	C09K 13/00
Liquid crystal materials	C09K 19/00
Organic conductors, in general	H01B 1/12
Organic insulators, in general	H01B 3/18

Special rules of classification

Special rules for classifying chemical compounds:

Markush formulae or generic formulae are not classified, only concrete embodiments or examples are classified. Simple lists of known compounds (without application in an example or embodiment) are not classified.

Fullerenes and carbon nanotubes are considered to be organic material. Graphene is considered to be inorganic.

In addition to the polymer classification, H10K 85/10, the side-chains of aromatic or aliphatic polymers may be classified in the appropriate subgroup (e.g. H10K 85/30, H10K 85/40, H10K 85/50, H10K 85/60).

Aromatic or aliphatic polymers comprising a metal complex in their main chain are classified in both H10K 85/10 and in H10K 85/30.

Silicon containing compounds are classified in H10K 85/40 and are additionally classified in in H10K 85/10, H10K 85/20, H10K 85/30, H10K 85/50 and/or H10K 85/60 as appropriate.

Ligands of metal complexes are not additionally classified in H10K 85/60.

2. A. DEFINITIONS (modified)

G09G 3/3208

References

Insert: The following three new references in the Informative references table.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Organic light-emitting devices [OLED]	H10K 50/00
Integrated devices, or assemblies of multiple devices, comprising at least one organic light-emitting element	H10K 59/00
Integrated devices, or assemblies of multiple devices, comprising at least one organic light-emitting element and at least one organic radiation-sensitive element	H10K 65/00