

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 592

DATE: JANUARY 1, 2019

PROJECT MP0432

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

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Titles Changed:	H05K	SUBCLASS
	H05K	1/00, 1/0213, 1/0216, 1/0221, 1/0236, 1/026, 1/0275, 1/03, 1/05, 1/09, 1/092, 1/14, 1/16
	H05K	3/00, 3/0011, 3/022, 3/027, 3/06, 3/061, 3/065, 3/067, 3/068, 3/08, 3/106, 3/12, 3/1225, 3/125, 3/1266, 3/14, 3/16, 3/18, 3/181, 3/241, 3/321, 3/34, 3/3457, 3/38, 3/4038, 3/46
	H05K	5/00
	H05K	7/10, 7/12, 7/14, 7/1462, 7/1469, 7/20, 7/20172, 7/20181, 7/20954
	H05K	9/0001, 9/0005, 9/0066, 9/0067, 9/0075, 9/0077, 9/009
	H05K	13/0053, 13/02
Notes Modified:	H05K	SUBCLASS
DEFINITIONS:		
Definitions New:	H05K	1/026, 1/09, 1/092
	H05K	3/022, 3/027, 3/061, 3/065, 3/067, 3/068, 3/106, 3/1225, 3/125, 3/1266, 3/181, 3/241, 3/321, 3/3457, 3/38
	H05K	7/1462, 7/1469, 7/20172, 7/20181, 7/20954
	H05K	9/0001, 9/0005, 9/0066, 9/0067, 9/0075, 9/0077, 9/009
Definitions Modified:	H05K	SUBCLASS
	H05K	1/00, 1/14, 1/0277
	H05K	3/00, 3/0073
	H05K	5/00
	H05K	7/00
	H05K	11/00
	H05K	13/0015, 13/0069, 13/0084, 13/02, 13/04, 13/0456, 13/0469, 13/06

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

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

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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 H05K- PRINTED CIRCUITS; CASINGS OR CONSTRUCTIONAL DETAILS OF ELECTRIC APPARATUS; MANUFACTURE OF ASSEMBLAGES OF ELECTRICAL COMPONENTS

<u>Type</u> *	<u>Symbol</u>	<u>Indent Level Number of dots (e.g. 0, 1, 2)</u>	<u>Title</u> “CPC only” text should normally be enclosed in {curly brackets}**	<u>Transferred to#</u>
M	H05K	Sub class	PRINTED CIRCUITS; CASINGS OR CONSTRUCTIONAL DETAILS OF ELECTRIC APPARATUS; MANUFACTURE OF ASSEMBLAGES OF ELECTRICAL COMPONENTS	
M	H05K 1/00	0	Printed circuits	
M	H05K 1/0213	2	{Electrical arrangements not otherwise provided for}	
M	H05K 1/0216	3	{Reduction of cross-talk, noise or electromagnetic interference (grounding H05K1/0215)}	
M	H05K 1/0221	6	{Coaxially shielded signal lines comprising a continuous shielding layer partially or wholly surrounding the signal lines }	
M	H05K 1/0236	4	{Electromagnetic band-gap structures }	
M	H05K 1/026	5	{Spark gaps }	
M	H05K 1/0275	2	{Security details, e.g. tampering prevention or detection }	
M	H05K 1/03	2	Use of materials for the substrate	
M	H05K 1/05	3	Insulated {conductive substrates, e.g. insulated} metal substrate	
M	H05K 1/09	2	Use of materials for the {conductive, e.g. } metallic pattern	
M	H05K 1/092	3	{Dispersed materials, e.g. conductive pastes or inks }	
M	H05K 1/14	2	Structural association of two or more printed circuits (providing electric connection to or between printed circuits H05K 1/11, H01R 12/00)	
M	H05K 1/16	1	incorporating printed electric components, e.g. printed resistor, capacitor, inductor	
M	H05K 3/00	0	Apparatus or processes for manufacturing printed circuits	
M	H05K 3/0011	1	{Working of insulating substrates or insulating layers }	
M	H05K 3/022	2	{Processes for manufacturing precursors of printed circuits, i.e. copper-clad substrates }	
M	H05K 3/027	2	{the conductive material being removed by irradiation, e.g. by photons, alpha or beta particles }	
M	H05K 3/06	2	the conductive material being removed chemically or electrolytically, e.g. by photo-etch process {(semi-additive methods H05K3/108)}	
M	H05K 3/061	3	{Etching masks }	
M	H05K 3/065	4	{applied by electrographic, electrophotographic or magnetographic methods }	
M	H05K 3/067	3	{Etchants }	
M	H05K 3/068	3	{Apparatus for etching printed circuits }	

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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	H05K 3/08	2	the conductive material being removed by electric discharge, e.g. by spark erosion	
M	H05K 3/106	3	{by photographic methods}	
M	H05K 3/12	2	using {thick film techniques, e.g.} printing techniques to apply the conductive material {or similar techniques for applying conductive paste or ink patterns}	
M	H05K 3/1225	4	{Screens or stencils; Holders therefor}	
M	H05K 3/125	4	{by ink-jet printing}	
M	H05K 3/1266	3	{by electrographic or magnetographic printing}	
M	H05K 3/14	2	using spraying techniques to apply the conductive material {, e.g. vapour evaporation}	
M	H05K 3/16	3	by cathodic sputtering	
M	H05K 3/18	2	using precipitation techniques to apply the conductive material	
M	H05K 3/181	3	{by electroless plating (adhesives therefor H05K3/387)}	
M	H05K 3/241	3	{characterised by the electroplating method; means therefor, e.g. baths or apparatus}	
M	H05K 3/321	3	{by conductive adhesives}	
M	H05K 3/34	3	by soldering	
M	H05K 3/3457	4	{Solder materials or compositions; Methods of application thereof}	
M	H05K 3/38	1	Improvement of the adhesion between the insulating substrate and the metal	
M	H05K 3/4038	2	{Through-connections; Vertical interconnect access [VIA] connections (H05K3/403, H05K3/42 take precedence)}	
M	H05K 3/46	1	Manufacturing multilayer circuits	
M	H05K 5/00	0	Casings, cabinets or drawers for electric apparatus	
U	H05K 7/00	0	Constructional details common to different types of electric apparatus (casings, cabinets, drawers H05K5/00)	
M	H05K 7/10	2	Plug-in assemblies of components {, e.g. IC sockets}	
M	H05K 7/12	2	Resilient or clamping means for holding component to structure	
M	H05K 7/14	1	Mounting supporting structure in casing or on frame or rack {(H05K7/18 takes precedence)}	
M	H05K 7/1462	2	{for programmable logic controllers [PLC] for automation or industrial process control}	
M	H05K 7/1469	4	{Terminal blocks for connecting sensors}	
M	H05K 7/20	1	Modifications to facilitate cooling, ventilating, or heating	
M	H05K 7/20172	4	{Fan mounting or fan specifications}	
M	H05K 7/20181	4	{Filters; Louvers}	
M	H05K 7/20954	2	{for display panels}	
M	H05K 9/0001	1	{Rooms or chambers (anechoic chambers G01R 29/0821)}	
M	H05K 9/0005	2	{Shielded windows}	

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Type *	Symbol	Indent Level Number r of dots (e.g. 0, 1, 2)	Title “CPC only” text should normally be enclosed in {curly brackets}**	Transferred to#
M	H05K 9/0066	1	{Constructional details of transient suppressor}	
M	H05K 9/0067	1	{Devices for protecting against damage from electrostatic discharge}	
M	H05K 9/0075	2	{Magnetic shielding materials}	
M	H05K 9/0077	3	{comprising superconductors}	
M	H05K 9/009	3	{comprising electro-conductive fibres, e.g. metal fibres, carbon fibres, metallised textile fibres, electro-conductive mesh, woven, non-woven mat, fleece, cross-linked}	
M	H05K 13/0053	1	{Arrangements for assisting the manual mounting of components, e.g. special tables or light spots indicating the place for mounting}	
M	H05K 13/02	1	Feeding of components	

*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; E= 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 finalisation 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.

C. New, Modified or Deleted Note(s)

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SUBCLASS H05K - PRINTED CIRCUITS; CASINGS OR CONSTRUCTIONAL DETAILS OF ELECTRIC APPARATUS; MANUFACTURE OF ASSEMBLAGES OF ELECTRICAL COMPONENTS

<u>Type*</u>	<u>Location</u>	<u>Old Note</u>	<u>New/Modified Note</u>
M	H05K	<p>1. This subclass <u>covers</u>: combinations of a radio or television receiver with apparatus having a different main function; printed circuits structurally associated with non-printed electric components; printed connectors (non printed connectors <u>H01R</u>)</p> <p>2. In this subclass, the following expression is used with the meaning indicated: "printed circuits" covers all kinds of mechanical constructions of circuits that consist of an insulating base or support carrying the conductor and are combined structurally with the conductor throughout their length, especially in a two-dimensional plane, the conductors of which are secured to the base in a non-dismountable manner, and also covers the processes or apparatus for manufacturing such constructions, e.g. forming the circuit by mechanical or chemical treatment of a conductive foil, paste, or film on an insulating support.</p>	<p>1. This subclass <u>covers</u>:</p> <ul style="list-style-type: none"> ○ combinations of a radio or television receiver with <u>apparatus</u> having a different main function; ○ printed circuits structurally associated with non-printed electric components. <p>2. In this subclass, the following expression is used with the meaning indicated:</p> <ul style="list-style-type: none"> ○ "printed circuits" covers all kinds of mechanical constructions of circuits that consist of an insulating base or support carrying the conductor and are combined structurally with the conductor throughout their length, especially in a two-dimensional plane, the conductors of which are secured to the base in a non-dismountable manner, and also covers the processes or <u>apparatus</u> for manufacturing such constructions, e.g. forming the circuit by mechanical or chemical <u>treatment</u> of a conductive foil, paste, or film on an insulating support.

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

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

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2. A. DEFINITIONS (new)

Insert: The following new Definitions.

H05K 1/026

References

Informative references

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

Spark gaps per se	H01T
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H05K 1/09

References

Informative references

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

Materials for conductors	H01B1/00
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H05K 1/092

References

Informative references

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

Conductive material dispersed in non-conductive material in general	H01B1/14 – H01B1/24
Conductive inks in general	C09D11/52

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H05K 3/022

References

Informative references

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

Laminates in general	B32B
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H05K 3/027

References

Informative references

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

Machining by laser in general	B23K26/00
Electron or ion beam tubes therefor	H01J37/00

H05K 3/061

References

Informative references

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

Local etching	C23F1/02
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H05K 3/065

References

Informative references

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

Electrography, electrophotography, magnetography in general	G03G
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H05K 3/067

References

Informative references

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

Etching compositions in general	C23F1/10 – C23F1/46
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H05K 3/068

References

Informative references

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

Apparatus for etching in general	C23F1/08
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H05K 3/106**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Photographic processes in general	G03C
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H05K 3/1225**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Stencil holders for applying liquids	B05C17/08
Manufacturing of screens or stencils	B41C1/14
Screens or stencils in general	B41N1/24

H05K 3/125**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Ink-jet printers in general	B41J
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H05K 3/1266

References

Informative references

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

Electrography, magnetography in general	G03G
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H05K 3/181

References

Limiting references

This place does not cover:

Adhesives therefor	H05K3/387
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Informative references

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

Electroless plating in general	C23C18/16
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H05K 3/241

References

Informative references

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

Electroplating in general	C25D
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H05K 3/321

References

Informative references

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

Using electrically conductive adhesives in general	H01R4/04
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H05K 3/3457

References

Informative references

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

Solder compositions per se	B23K35/24
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H05K 3/38

References

Informative references

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

Laminates per se	B32B
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H05K 7/1462

References

Informative references

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

Programmable logic controllers per se	G05B19/05
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H05K 7/1469

References

Informative references

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

Terminal blocks in general	H01R9/24
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H05K 7/20172**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Blowers in general	F04D29/601
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H05K 7/20181**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Filters in general	B01D46/00
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H05K 7/20954**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:*

Heating or cooling of liquid crystal cells	G02F1/133382
Cooling for projectors	G03B21/16
Cooling means for computer displays	G06F1/20
Plasma display panels per se	H01J17/49

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H05K 9/0001

References

Limiting references

This place does not cover:

Anechoic chambers	G01R29/0821
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Informative references

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

Building construction in general	E04B
Nuclear magnetic resonance	G01R33/42

H05K 9/0005

References

Informative references

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

Windows for building construction in general	E06B5/00
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H05K 9/0066

References

Informative references

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

Protective circuits	H02H
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H05K 9/0067

References

Informative references

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

Materials for electrostatic discharge protection	H05K9/0079
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H05K 9/0075

References

Informative references

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

Magnetic material in general	H01F1/00
For transformer	H01F27/28
For electrical motor	H02K11/00

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H05K 9/0077

References

Informative references

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

Superconductors in general	H01L39/00
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H05K 9/009

References

Informative references

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

Screening during electrotherapy	A61N1/16
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2. A. DEFINITIONS (modified)**H05K****References**

Delete: The entire Limiting references section.

Informative references

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

Add: The following new reference to the existing Informative references table.

Thin-film or thick-film circuits	H01L 27/01, H01L 27/13
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H05K 1/00**References**

Delete: The entire Limiting references section.

Informative references

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

Add: The following four new references to the existing Informative references table.

Screening against electric or magnetic fields	H05K9/00
Electrostatic discharge protection for electric apparatus in general	H05K9/0067, H05K9/0079
Impedance arrangements, e.g. impedance matching, reduction of parasitic impedance for semiconductor devices	H01L23/66
Assemblies of a plurality of individual semiconductor or solid state devices	H01L 25/00

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H05K 1/0277

Delete: The entire Special rules of classification section.

H05K 1/14**References****Limiting references**

This place does not cover:

Add: The following new reference to the existing Limiting references table.

Connectors for connection to or between printed circuits	H01R12/00
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Delete: The entire Informative references section.

H05K 3/00**References**

Delete: The entire Limiting references section.

Informative references

Add: The following eight new references to the existing Informative references table.

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

Soldering, e.g. brazing, or unsoldering in general	B23K1/00
Tools, devices, or special appurtenances for soldering, e.g. brazing, or unsoldering, not specially adapted for particular methods	B23K3/00
Selection of soldering or welding materials proper, i.e. solder compositions per se	B23K35/24

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Processes or apparatus adapted for the manufacture or treatment of semiconductor or solid state devices or of parts thereof	H01L21/00
Electrically-conductive connections between two or more conductive members in direct contact using electrically conductive adhesives, in general	H01R4/04
Connectors for printed circuits	H01R9/091
Apparatus specially adapted for manufacturing assemblages of electric components, e.g. printed circuit boards	H05K13/00
Mounting of components	H05K13/04

H05K 3/0073

References

Delete: The entire Limiting references section.

Insert: The following new References out of a residual place section.

References out of a residual place

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

Apparatus or processes for manufacturing printed circuits	H05K3/02 - H05K3/46
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H05K 5/00

References

Delete: The entire Limiting references section.

Insert: The following new Application-oriented references section.

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:

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Radio receiver cabinets	H04B1/08
Television receiver cabinets	H04N5/64

Informative references

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

Add: The following nine new references to the existing Informative references table.

Furniture/cabinets	A47B87/00
LCD display panels	G02F1/13
Projectors	G03B21/00
Desktop and laptop computer housings	G06F1/16
Casings and housings of instrument	G12B9/00
Plasma display panels	H01J29/00
Receptacles of batteries	H01M2/10
Mobile phone housings	H04M1/0202
CRT Television housings	H04N5/00

H05K 7/00

References

Limiting references

This place does not cover:

Delete: All references except the following from the Limiting references table.

Casings, cabinets, drawers	H05K5/00
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Informative references

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

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Add: The following ten new references to the existing Informative references table.

Constructional details of optoelectronic equipments	G02B6/42
Program control systems PLC without constructional details	G05B19/00
Inner arrangements of desktop and laptop computers	G06F1/18
Cooling arrangements of desktop and laptop computers	G06F1/20
Bus systems and interfaces of computers	G06F13/409
Constructional details of record carriers	G06K7/00
Constructional details of Hard disk drives	G11B33/00
CPU cooling; Cooling of electronic components not using the housing for the heat transfer	H01L23/34
Cooling of batteries	H01M10/60
Telecommunication distribution frames and equipments	H04Q1/00

H05K 11/00

Insert: The following new Limiting references section.

References

Limiting references

This place does not cover:

Combinations of a radio or television receiver with clocks	G04B47/00
Radio or television receiver controlled by a clock	G04C21/28

Delete: The entire Special rules of classification section.

H05K 13/0015

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Delete: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

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

Orientation, alignment and positioning of the printed circuit boards for testing	G01R31/00
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H05K 13/0069

References

Delete: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

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

Fixation of printed circuit boards in testing machines	G01R31/00
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H05K 13/0084

References

Delete: The entire Limiting references section.

Informative references

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

Add: The following two new references to the Informative references table.

Filling of containers	H05K13/02
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Use of said containers in mounting machines	H05K13/04
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H05K 13/02

References

Delete: The entire Limiting references section.

Informative references

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

Add: The following new reference to the Informative references table.

Emptying of containers by the mounting machine itself	H05K13/04
---	---------------------------

H05K 13/04

References

Delete: The entire Limiting references section.

Informative references

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

Add: The following new reference to the Informative references table.

Assembling printed circuits with electric components	H05K3/30
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H05K 13/0456

References

Delete: The entire Limiting references section.

DATE: JANUARY 1, 2019

PROJECT MP0432

Insert: The following new Informative references section.

Informative references

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

Hole shaping and details of holes	H05K3/00
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H05K 13/0469

References

Delete: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

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

Details of glue fixation between component and PC board	H05K3/00
---	--------------------------

H05K 13/06

References

Delete: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

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

Multiplex wire bundles for vehicles	B60R
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