

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1410

DATE: FEBRUARY 1, 2023

PROJECT RP11945

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

<u>Action</u>	<u>Subclass</u>	<u>Group(s)</u>
SCHEME:		
Symbols Deleted:	H01L	27/22, 27/222, 27/224, 27/226, 27/228, 27/24, 27/2409, 27/2418, 27/2427, 27/2436, 27/2445, 27/2454, 27/2463, 27/2472, 27/2481, 27/249
DEFINITIONS:		
Definitions Deleted: (no frozen (F) symbol definitions should be deleted)	H01L	27/22, 27/24

The following subclasses/groups are also impacted by this Notice of Changes (indicate subclasses/groups outside of the project scope, such as those listed in the CRL): G11C11/16, H01L21/77, H04N5/455

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 H01L - SEMICONDUCTOR DEVICES; ELECTRIC SOLID STATE DEVICES NOT OTHERWISE PROVIDED FOR

<u>Type</u> *	<u>Symbol</u>	<u>Inden</u> <u>t</u> <u>Level</u> <u>Num</u> <u>ber of</u> <u>dots</u> (e.g. <u>0, 1,</u> <u>2)</u>	<u>Title</u> “CPC only” text should normally be <u>enclosed in {curly brackets}**</u>	<u>Transferred to</u> [#]
D	H01L 27/22	1	including components using galvano-magnetic effects, e.g. Hall effects; using similar magnetic field effects	<administrative transfer to H10B 61/00 and H10N 59/00 simultaneously>
D	H01L 27/222	2	{Magnetic non-volatile memory structures, e.g. MRAM}	<administrative transfer to H10B 61/00>
D	H01L 27/224	3	{comprising two-terminal components, e.g. diodes, MIM elements}	<administrative transfer to H10B 61/10>
D	H01L 27/226	3	{comprising multi-terminal components, e.g. transistors}	<administrative transfer to H10B 61/20>
D	H01L 27/228	4	{of the field-effect transistor type}	<administrative transfer to H10B 61/22>
D	H01L 27/24	1	including solid state components for rectifying, amplifying or switching without a potential-jump barrier or surface barrier, {e.g. resistance switching non-volatile memory structures}	<administrative transfer to H10B 63/00>
D	H01L 27/2409	2	{comprising two-terminal selection components, e.g. diodes}	<administrative transfer to H10B 63/20>
D	H01L 27/2418	3	{of the metal-insulator-metal type}	<administrative transfer to H10B 63/22>
D	H01L 27/2427	3	{of the Ovonic threshold switching type}	<administrative transfer to H10B 63/24>
D	H01L 27/2436	2	{comprising multi-terminal selection components, e.g. transistors}	<administrative transfer to H10B 63/30>
D	H01L 27/2445	3	{of the bipolar type}	<administrative transfer to H10B 63/32>
D	H01L 27/2454	3	{of the vertical channel field-effect transistor type}	<administrative transfer to H10B 63/34>
D	H01L 27/2463	2	{Arrangements comprising multiple bistable or multistable switching components of the same type on a plane}	<administrative transfer to H10B 63/80>

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<u>Type</u> *	<u>Symbol</u>	<u>Inden</u> <u>t</u> <u>Level</u> <u>Num</u> <u>ber of</u> <u>dots</u> (e.g. <u>0, 1,</u> <u>2)</u>	<u>Title</u> “CPC only” text should normally be enclosed in {curly brackets}**	<u>Transferred to</u> [#]
			parallel to the substrate, e.g. cross-point arrays, details of the horizontal layout }	
D	H01L 27/2472	3	{the switching components having a common active material layer}	<administrative transfer to H10B 63/82>
D	H01L 27/2481	3	{arranged in a direction perpendicular to the substrate, e.g. 3D cell arrays, details of the vertical layout }	<administrative transfer to H10B 63/84>
D	H01L 27/249	4	{the switching components being connected to a common vertical conductor }	<administrative transfer to H10B 63/845>

*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 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.

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2. B. DEFINITIONS QUICK FIX

Symbol	Location of change (e.g., section title)	Existing reference symbol or text	Action; New symbol; New text
H01L 27/22			<u>Delete</u> : The entire Definition.
H01L 27/24			<u>Delete</u> : The entire Definition.

Notes:

Use this Definitions Quick Fix (DQF) table to:

- Delete an entire definition
- Delete an entire section
- Change a reference symbol
- Delete a reference symbol
- Delete text in a References section
- Correct one error in spelling, article use, or verb tense

Otherwise, use the standard template.

Reminder: Never delete F symbol definitions.

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3. REVISION CONCORDANCE LIST (RCL)

<u>Type*</u>	<u>From CPC Symbol (existing)</u>	<u>To CPC Symbol(s)</u>
D	H01L 27/22	<administrative transfer to H10B 61/00 and H10N 59/00 simultaneously>
D	H01L 27/222	<administrative transfer to H10B 61/00>
D	H01L 27/224	<administrative transfer to H10B 61/10>
D	H01L 27/226	<administrative transfer to H10B 61/20>
D	H01L 27/228	<administrative transfer to H10B 61/22>
D	H01L 27/24	<administrative transfer to H10B 63/00>
D	H01L 27/2409	<administrative transfer to H10B 63/20>
D	H01L 27/2418	<administrative transfer to H10B 63/22>
D	H01L 27/2427	<administrative transfer to H10B 63/24>
D	H01L 27/2436	<administrative transfer to H10B 63/30>
D	H01L 27/2445	<administrative transfer to H10B 63/32>
D	H01L 27/2454	<administrative transfer to H10B 63/34>
D	H01L 27/2463	<administrative transfer to H10B 63/80>
D	H01L 27/2472	<administrative transfer to H10B 63/82>
D	H01L 27/2481	<administrative transfer to H10B 63/84>
D	H01L 27/249	<administrative transfer to H10B 63/845>

* 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; D = deleted entries; F = frozen entries will be deleted once reclassification of documents from the entries is completed.

NOTES:

- Only C, D, F, and Q type entries are included in the table above.
- When multiple symbols are included in the “To” column, do not use ranges of symbols.
- 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 (“To”)symbol, however it is required to specify “<no transfer>” in the “To” column for such cases.
- RCL is not needed for finalisation projects.

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4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

<u>CPC</u>	<u>IPC</u>	<u>Action*</u>
H01L 27/22		DELETE
H01L 27/222		DELETE
H01L 27/224		DELETE
H01L 27/226		DELETE
H01L 27/228		DELETE
H01L 27/24		DELETE
H01L 27/2409		DELETE
H01L 27/2418		DELETE
H01L 27/2427		DELETE
H01L 27/2436		DELETE
H01L 27/2445		DELETE
H01L 27/2454		DELETE
H01L 27/2463		DELETE
H01L 27/2472		DELETE
H01L 27/2481		DELETE
H01L 27/249		DELETE

* Action column:

- For an (N) or (Q) entry, provide an IPC symbol and complete the Action column with “NEW.”
- For an existing CPC main trunk entry or indexing entry where the existing IPC symbol needs to be changed, provide an updated IPC symbol and complete the Action column with “UPDATED.”
- For a (D) CPC entry or indexing entry complete the Action column with “DELETE.” IPC symbol does not need to be included in the IPC column.
- For an (N) 2000 series CPC entry which is positioned within the main trunk scheme (breakdown code) provide an IPC symbol and complete the action column with “NEW”.
- For an (N) 2000 series CPC entry positioned at the end of the CPC scheme (orthogonal code), with no IPC equivalent, complete the IPC column with “CPC ONLY” and complete the action column with “NEW”.

NOTES:

- F symbols are not included in the CICL table above.
- T and M symbols are not included in the CICL table above unless a change to the existing IPC is desired.

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5. CROSS-REFERENCE LIST (CRL)

Definitions references impacted by this revision project

<u>Location of reference to be changed</u>	<u>Referenced subclass or group to be changed</u>	<u>Section of definition</u>	<u>Action; New reference symbol; New text</u>
G11C11/16	Memory structures H01L27/22	Informative references	Memory structures; Manufacturing of magnetic memory H10B 61/00
G11C11/16	Manufacturing of magnetic memory H01L27/222	Informative references	Delete
H01L21/77	H01L27/22	Informative references	H10N 59/00
H01L21/77	H01L27/24	Informative references	H10B 63/00
H04N5/455	H01L27/22	Informative references	H10B 61/00

NOTES:

- The CRL tables above are used for changes to locations **outside** of the project scope. Changes to references in scheme titles or definitions **inside** the project scope will be reflected in the “scheme change” template or one of the “definition” templates.
- In addition to other changes proposed in the tables above, in the column titled “Referenced subclass or group to be changed,” **referenced** D symbols should indicate an action of “delete” or should indicate a replacement symbol and **referenced** F symbols should indicate a replacement symbol.
- When a reference is deleted, text related to that reference will also be deleted unless other references or a range of references associated with the same text remain.