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(54) **OVERVOLTAGE PROTECTION DEVICE INCLUDING MULTIPLE VARISTOR WAFERS**

(57) An overvoltage protection device includes a first electrode member, a second electrode member, and a varistor assembly. The varistor assembly includes: a plurality of varistor wafers each formed of a varistor material; and at least one electrically conductive inter-

connect member connecting the varistor wafers in electrical parallel between the first and second electrode members. The varistor wafers are axially stacked between the first and second electrodes.

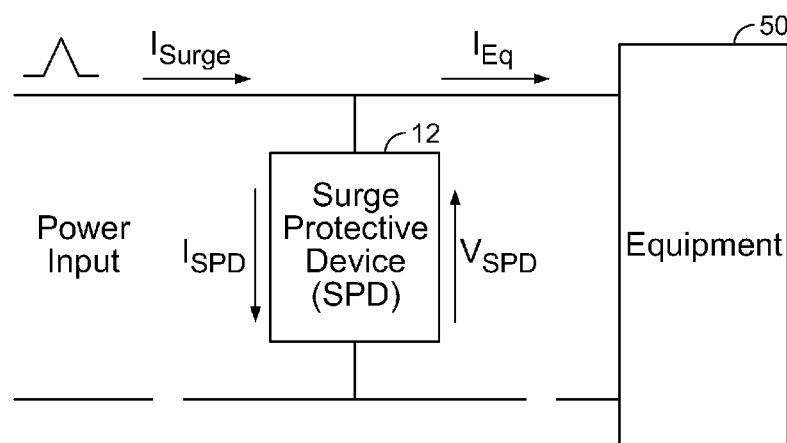


FIG. 1
(Prior Art)



EUROPEAN SEARCH REPORT

Application Number

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2013/335869 A1 (XEPAPAS FOTIS [GR] ET AL) 19 December 2013 (2013-12-19) * paragraphs [0004], [0010], [0012], [0015], [0016], [0040] - [0042], [0046], [0050] - paragraphs [0055], [0065], [0069], [0072], [0073], [0087], [0088], [0092], [0110]; claims 1-5, 11, 12; figures 1-6 * * the whole document *	1-12	INV. H01C7/102 H01C7/12
A	US 2015/103462 A1 (DEPPING CHRISTIAN [DE]) 16 April 2015 (2015-04-16) * paragraphs [0023] - [0027], [0046], [0049], [0057]; claims 22,23, 30; figures 3-5 * * the whole document *	1-12	
A	US 2016/276821 A1 (POLITIS ZAFIRIS G [GR] ET AL) 22 September 2016 (2016-09-22) * paragraphs [0146], [0191]; figures 19,20 * * the whole document *	1-12	TECHNICAL FIELDS SEARCHED (IPC)
A	CA 2 098 365 A1 (COOPER POWER SYST [US]) 31 December 1993 (1993-12-31) * abstract; claims 1,3,8,11,12,15; figures 6,7 * * page 8, lines 11-16,23 - page 9, lines 6,12-16 * * pages 10,16,18, lines 18-24,4-14,19 - page 19, line 1 * * page 21, line 19 - page 22, line 2 * * page 28, line 19 - page 30, line end * * the whole document *	1-12	H01T H01C H01H H02H H01R
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 6 March 2025	Examiner Dessaux, Christophe
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 2013335869	A1	19-12-2013	CY	1120809 T1		11-12-2019
			CY	1123147 T1		24-03-2022
			DK	2677524 T3		07-01-2019
			DK	3640958 T3		03-07-2023
			EP	4202959 A2		28-06-2023
			ES	2699918 T3		13-02-2019
			ES	2782073 T3		10-09-2020
			ES	2945962 T3		11-07-2023
			FI	3640958 T3		13-06-2023
			HR	P20181844 T1		28-12-2018
			HR	P20200479 T1		26-06-2020
			HR	P20230350 T1		07-07-2023
			HU	E042442 T2		28-06-2019
			HU	E048826 T2		28-08-2020
			HU	E061831 T2		28-08-2023
			PL	3640958 T3		24-07-2023
			PT	2677524 T		17-12-2018
			PT	3358577 T		22-04-2020
			PT	3640958 T		12-04-2023
			SI	3640958 T1		31-07-2023
US	2013335869 A1		19-12-2013			
WO	2013190338 A1		27-12-2013			

US 2015103462	A1	16-04-2015	CN	104160460 A		19-11-2014
			DE	102012004678 A1		12-09-2013
			EP	2826044 A1		21-01-2015
			US	2015103462 A1		16-04-2015
			WO	2013135369 A1		19-09-2013

US 2016276821	A1	22-09-2016	CA	2976969 A1		22-09-2016
			CA	3197111 A1		22-09-2016
			CN	107636925 A		26-01-2018
			DK	3259818 T3		11-10-2021
			EP	3259818 A2		27-12-2017
			EP	3989379 A1		27-04-2022
			ES	2890798 T3		24-01-2022
			US	2016276821 A1		22-09-2016
			US	2020021098 A1		16-01-2020
			US	2023141386 A1		11-05-2023
			US	2024297491 A1		05-09-2024
WO	2016146086 A2		22-09-2016			

CA 2098365	A1	31-12-1993	CA	2098365 A1		31-12-1993
			JP	H0696835 A		08-04-1994

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82