Certificate UL 60384-14, CSA E60384-14

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Vishay

CERTIFICATE OF COMPLIANCE

Certificate Number Report Reference Issue Date 20140313-E354331 E354331-20120730 2014-MARCH-13

Issued to: VISHAY CAPACITORS BELGIUM N V KWADESTRAAT 151 A BOX 12 8800 ROESELARE BELGIUM

This is to certify that representative samples of COMPONENT - ACROSS-THE-LINE CAPACITORS, ANTENNA-COUPLING COMPONENTS, LINE-BYPASS COMPONENTS AND FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT,

See Addendum for models

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: Additional Information:

See addendum page for standards See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Recognized Component Marks for the U.S. and Canada should be considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: **PA**, may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada: **AB** and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.

William R. Carn

William R. Carney, Director, North American Certification Programs UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please control to be added to the provided on the service of the provided on the provided on the service of the provided on the provided

Page 1 of 2

Revision: 22-Jul-14

1 For technical questions, contact: <u>rfi@vishay.com</u> Document Number: 28231



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CERTIFICATE OF COMPLIANCE

Certificate Number Report Reference Issue Date 20140313-E354331 E354331-20120730 2014-MARCH-13

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Component – Class X2 Wound Film Type Capacitors, F1772 and F1772S Series with capacitance from 10nF to 2200nF with tolerance suffix code J, K or M. Refer to CONSTRUCTION DETAILS for Model designation and rated capacitance.

Standards for Saftey:

UL 60384-14#, Fixed Capacitors for Use in Electronic Equipment – Part 14: Sectional Specification: Fixed Capacitors for Electromagnetic Interference Suppression and Connection to the Supply Mains

CSA E60384-1:03, Fixed Capacitors for Use in Electronic Equipment - Part 1: Generic Specification

CSA E60384-14:09, Fixed Capacitors for Use in Electronic Equipment – Part 14: Sectional Specification: Fixed Capacitors for Electromagnetic Interference Suppression and Connection to the Supply Mains

Wellism R. C.

William R. Carney, Director, North American Certification Programs
UL LLC

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Page 2 of 2

Revision: 22-Jul-14

2

Document Number: 28231

For technical questions, contact: <u>rfi@vishay.com</u> THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000</u>



Certificate UL 60384-14, CSA E60384-14

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File E354331	Vol.	1	Sec. 8	Page 1	Issued:	2012-07-30
	Vol.	2	Sec. 8		Revised:	2014-03-12
			and Report			

DESCRIPTION

PRODUCT COVERED:

USR, CNR - Component - Class X2 Wound Film Type Capacitors, F1772 and F1772S Series with capacitance from 10nF to 2200nF with tolerance suffix code J, K or M. Refer to CONSTRUCTION DETAILS for Model designation and rated capacitance.

RATINGS:

Series	Clas s	Voltage Rating (ac)	Lower Category Temp. (°C)	Upper Category Temp. (°C)	Capacitance Tolerance (%)	Climatic Category	Passive Flammability Category
F1772, F1772S	X2	310	-40	110	+/-20%#	56	B or C++

- The suffix code for tolerance associated with capacitance may be J(±5%), K(±10%), or M(±20%).

++ - If Series 336 1 that volume smaller than 1750 mm³ apply passive flammability category of C according test result.

ABBREVIATIONS:

USR - Recognized, indicates investigation to UL 60384-14, First Edition, with revisions up to and including March 31, 2010.

CNR - Recognized, indicates investigation to CSA E60384-1:03, Second Edition, February 2003 and CSA E60384-14:09, Second Edition, March 2009.



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File E354331

Vol. 1 Sec. 8 Vol. 2 Sec. 8 and Report Page 1

Issued: 2012-07-30

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PRODUCT COVERED:

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RATINGS:

			Lower	Upper			
		Voltage	Category	Category	Capacitance		Passive
	Clas	Rating	Temp.	Temp.	Tolerance	Climatic	Flammability
Series	S	(ac)	(°C)	(°C)	(%)	Category	Category
F1772	X2	310	-40	110	+/-20%#	56	B or C++

- The suffix code for tolerance associated with capacitance may be $J(\pm 5\%)$, $K(\pm 10\%)$, or $M(\pm 20\%)$. ++ - If Series 336 1 that volume smaller than 1750 mm³ apply passive flammability category of C according test result.

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4