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Product Change Notification

PCN

Product Group: OPT/Tuesday July 28, 2026/PCN-OPT-1502-2026-REV-0

Qualification of new chipset and BOM for VOR1142M4, LH1546AEF solid state relay family

For further information, please contact your regional Vishay office.

CONTACT INFORMATION

Americas

Jim Toal
2585 Junction Avenue , CA
-
San Jose United States 95134
Phone: +14085678358
Fax:
jim.toal@vishay.com

Europe

Boris Lazic
Theresienstrasse 2
-
Heilbronn Germany 74072
Phone: +4971317498516
Fax:
boris.lazic@vishay.com

Asia

Jason Soon
37A Tampines Street 92 #07-01
-
Singapore Singapore 528886
Phone: +6587785656
Fax:
jason.soon@vishay.com

Description of Change: Vishay will change the chipset combination (Emitter and Mosfet dies) in the affected products. In addition, mold compound and leadframe will be changed as well as gold wire bond diameter will be reduced to 25 micron.

Reason for Change: The current Mosfet chip has been obsoleted by the supplier. As a result, a new chipset combination has been qualified to sustain the product performance and ensure uninterrupted supply to our valued customers.
Furthermore, an alternative molding compound and a leadframe has been qualified to have a standardized manufacturing process. In addition, gold bond wire diameter will be reduced to 25 micron which aligns with Vishay's standard wire diameter on similar products.

Expected Influence on Quality/Reliability/Performance: There is no change in form, fit and function of the affected parts. The performance as well as the reliability remains unchanged. Min and Max values for the affected parts remain unchanged. However, the deviations in the typical performance are highlighted in the attached comparison report.
Nevertheless, we require customers to test the product in their applications.

Part Numbers/Series/Families Affected: VOR1142M4, VOR1142M4T, LH1546AEFTR, LH1546AEF,

Vishay Brand(S): Vishay Semiconductors

Time Schedule:

Start Shipment Date: Sunday November 15, 2026

Sample Availability: Samples are available 15-08-2026 onwards. Shipment date depends on the depletion of existing materials.

Product Identification: Lot Marking Code

Qualification Data: Qualification data available upon request

This PCN is considered approved, without further notification, unless we receive specific customer concerns before Wednesday August 26, 2026 or as specified by contract.

Issued By: Sourabh Kulkarni, sourabh.kulkarni@vishay.com

PCN OPT-1502-2026 Rev. 0
QUALIFICATION OF NEW CHIPSET AND BOM FOR VOR1142M4, LH1546AEF solid state relay series

Pre and Post PCN Comparison report

VOR1142M4 series

Pre- PCN

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
INPUT						
IRED forward current, switch turn-on	I_L = 100 mA, t = 10 ms	I_{Fon}	-	0.25	2	mA
IRED forward current, switch turn-off	V_L = ± 350 V, I_L < 1 µA	I_{Foff}	0.05	0.15	-	mA
IRED forward voltage	I_F = 10 mA	V_F	-	1.4	1.6	V
IRED reverse current	V_R = 5 V	I_R	-	-	10	µA
OUTPUT						
On-resistance	I_F = 5 mA, I_L = 50 mA	R_{ON}	-	19	27	Ω
Off-resistance	I_F = 0 mA, V_L = ± 100 V	R_{OFF}	0.5	850	-	GΩ
Off-state leakage current	I_F = 0 mA, V_L = ± 100 V	I_{leak}	-	< 1	100	nA
	I_F = 0 mA, V_L = ± 400 V	I_{leak}	-	6	500	nA
Output capacitance	I_F = 0 mA, V_L = 1 V, 1 MHz	C_O	-	39	-	pF
	I_F = 0 mA, V_L = 50 V, 1 MHz	C_O	-	6	-	pF
COUPLER						
Capacitance (input to output)	V_{IO} = 1 V	C_{IO}	-	0.4	-	pF

Post-PCN

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
INPUT						
IRED forward current, switch turn-on	I_L = 100 mA, t = 10 ms	I_{Fon}	-	0.25	2	mA
IRED forward current, switch turn-off	V_L = ± 350 V, I_L < 1 µA	I_{Foff}	0.05	0.15	-	mA
IRED forward voltage	I_F = 10 mA	V_F	-	1.4	1.6	V
IRED reverse current	V_R = 5 V	I_R	-	-	10	µA
OUTPUT						
On-resistance	I_F = 5 mA, I_L = 50 mA	R_{ON}	-	19	27	Ω
Off-resistance	I_F = 0 mA, V_L = ± 100 V	R_{OFF}	0.5	850	-	GΩ
Off-state leakage current	I_F = 0 mA, V_L = ± 100 V	I_{leak}	-	< 0.25	100	nA
	I_F = 0 mA, V_L = ± 400 V	I_{leak}	-	0.5	500	nA
Output capacitance	I_F = 0 mA, V_L = 1 V, 1 MHz	C_O	-	44	-	pF
	I_F = 0 mA, V_L = 50 V, 1 MHz	C_O	-	6	-	pF
COUPLER						
Capacitance (input to output)	V_{IO} = 1 V	C_{IO}	-	1.72	-	pF

LH1546AEF series

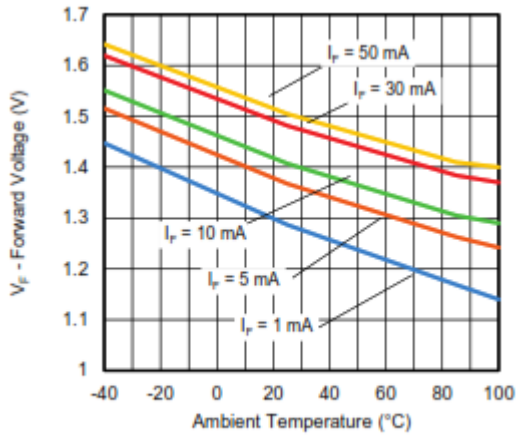
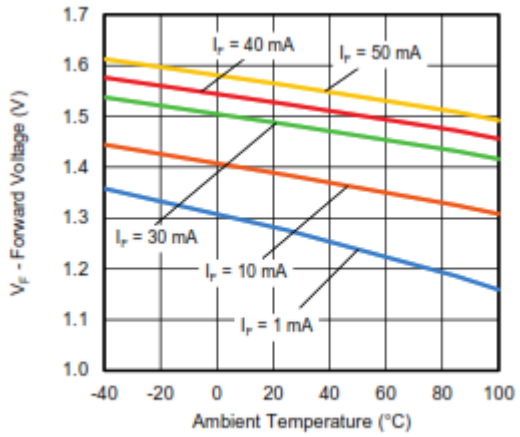
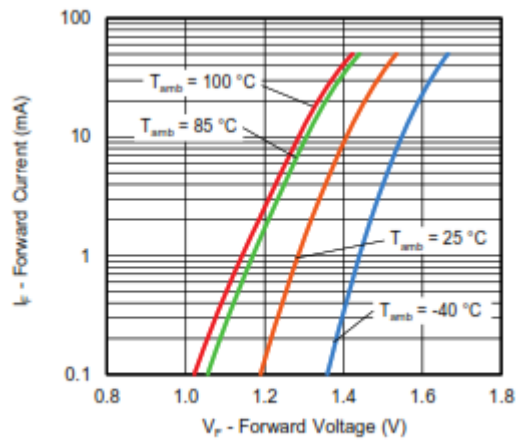
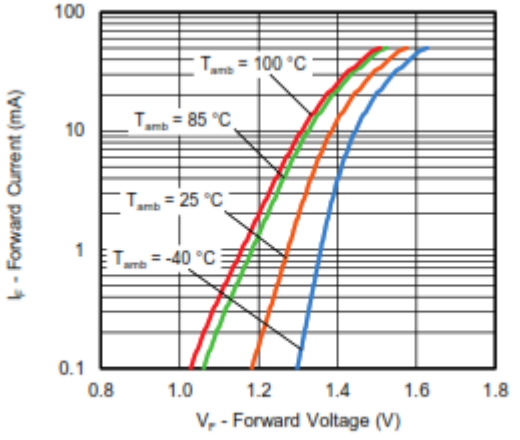
Pre-PCN

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
INPUT						
IRED forward current, switch turn-on	I_L = 100 mA, t = 10 ms	I_{Fon}	-	0.3	2	mA
IRED forward current, switch turn-off	V_L = ± 350 V, I_L < 1 µA	I_{Foff}	0.05	0.2	-	mA
IRED forward voltage	I_F = 10 mA	V_F	-	1.4	1.6	V
OUTPUT						
On-resistance	I_F = 5 mA, I_L = 50 mA	R_{ON}	-	22	27	Ω
Off-resistance	I_F = 0 mA, V_L = ± 100 V	R_{OFF}	0.5	850	-	GΩ
Off-state leakage current	I_F = 0 mA, V_L = ± 100 V	I_{leak}	-	< 1	200	nA
	I_F = 0 mA, V_L = ± 350 V	I_{leak}	-	-	1	µA
Output capacitance	I_F = 0 mA, V_L = 1 V, 1 MHz	C_O	-	39	-	pF
	I_F = 0 mA, V_L = 50 V, 1 MHz	C_O	-	6	-	pF
COUPLER						
Capacitance (input to output)	V_{IO} = 1 V	C_{IO}	-	0.6	-	pF

Post-PCN

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
INPUT						
IRED forward current, switch turn-on	I_L = 100 mA, t = 10 ms	I_{Fon}	-	0.3	2	mA
IRED forward current, switch turn-off	V_L = ± 350 V, I_L < 1 µA	I_{Foff}	0.05	0.2	-	mA
IRED forward voltage	I_F = 10 mA	V_F	-	1.4	1.6	V
OUTPUT						
On-resistance	I_F = 5 mA, I_L = 50 mA	R_{ON}	-	22	27	Ω
Off-resistance	I_F = 0 mA, V_L = ± 100 V	R_{OFF}	0.5	850	-	GΩ
Off-state leakage current	I_F = 0 mA, V_L = ± 100 V	I_{leak}	-	< 0.25	200	nA
	I_F = 0 mA, V_L = ± 350 V	I_{leak}	-	0.5	1	µA
Output capacitance	I_F = 0 mA, V_L = 1 V, 1 MHz	C_O	-	44	-	pF
	I_F = 0 mA, V_L = 50 V, 1 MHz	C_O	-	6	-	pF
COUPLER						
Capacitance (input to output)	V_{IO} = 1 V	C_{IO}	-	1.72	-	pF

VOR1142, LH1546AEF series

Pre-PCN	Post-PCN
 Fig. 5 - Forward Voltage vs. Ambient Temperature	 Fig. 5 - Forward Voltage vs. Ambient Temperature
 Fig. 6 - Forward Current vs. Forward Voltage	 Fig. 6 - Forward Current vs. Forward Voltage

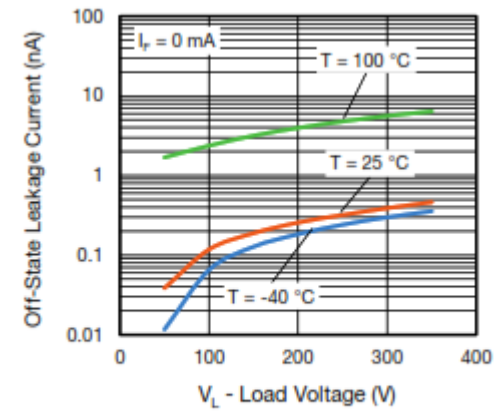


Fig. 10 - Off-State Leakage Current vs. Load Voltage

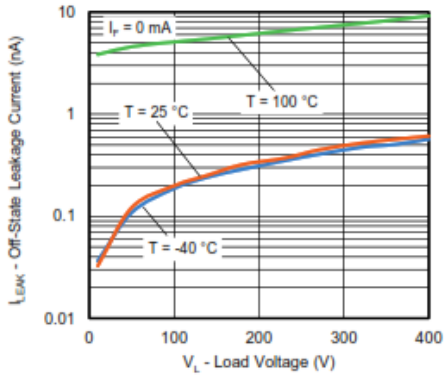


Fig. 10 - Off-State Leakage Current vs. Load Voltage

For any questions, please reach out to optocoupleranswers@vishay.com.