
Hewlett-Packard Company
Components Group
370 West Trimble Road
San Jose, California 95131

Re: CCNPOC#65

Dear HP Field Members, Distribution Channel Partners, Customers,

Per the attached Customer Change Notice, CCNPOC#65, Hewlett-Packard is implementing changes to its HCPL-7800 and HCPL-7800A Analog Isolation Amplifiers, associated options and customer special ("QCPL") part numbers.

Changes to these devices are necessary as we have received notification from our existing Complementary Metal Oxide Semiconductor (CMOS) supplier of their plan to obsolete the CMOS process they use to manufacture the integrated circuits used within the listed part numbers.

Attached with this change notification is a side-by-side comparison of "old" performance vs. "new" performance on key parameters.

If your company requires this notice, please begin to convert any affected purchasing and internal documentation as needed at your earliest convenience. Hewlett-Packard is committed to providing you with quality service and products. Please feel free to contact your Hewlett-Packard Field Sales Engineer with any questions or concerns you might have. They are ready to assist you in any way necessary to analyze this change.

Please contact the Components Sales Response Center @ 1-800-235-0312.

Sincerely,
HEWLETT-PACKARD SINGAPORE



Benny Tang
Product Manager
Isolation Components Business Unit

Hewlett-Packard Company
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370 West Trimble Road
San Jose, California 95131

Configuration Control Notice

For Hewlett-Packard Customers

Notification Date: 15 January 1999

CCNPOC#65

Please be advised that Hewlett-Packard will be making the following product change(s) on the effective date noted for the products listed. Satisfactory reliability data has been gathered and recorded to assure continuance of the high quality standards set forth in our standard catalog parts.

CUSTOMER PART(S) AFFECTED:

HCPL-7800 HCPL-7800A QCPL-7806 QCPL-7890 QCPL-7891

And all associated options

REASON/EXTENT OF CHANGE(S):

CMOS Supplier Change and IC Redesign

The supplier for the CMOS integrated circuits used in these devices is being changed. This change is necessary due to our existing supplier's decision to obsolete the CMOS process we use. Along with the supplier change, the integrated circuit was redesigned to fit the new supplier's CMOS process.

Internal Construction

The internal construction of these devices has been changed but the external dimensions (footprint) remain identical. The change results in improved insulation capabilities of the package. (Please refer to table 1 for the comparison chart.)

Mold Compound

The mold compound has been changed from Nitto (black) to ICI (white).

Performance changes as a result of items 1 through 3 are summarized in the attached tables that give a side-by-side comparison of "old" version data sheet performance versus "new" version data sheet performance.



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EFFECTIVE DATE OF CHANGE:

Shipments of the new version will be phased in beginning with date code 9930* which is 15 Jul 1999. The existing version of the product may be shipped until HP inventories are depleted or 31 Oct 1999, which ever occurs first.

* Original targeted date was 9924

Your Hewlett-Packard field sales engineer will assist you in any way necessary for you to analyze this change to your satisfaction.

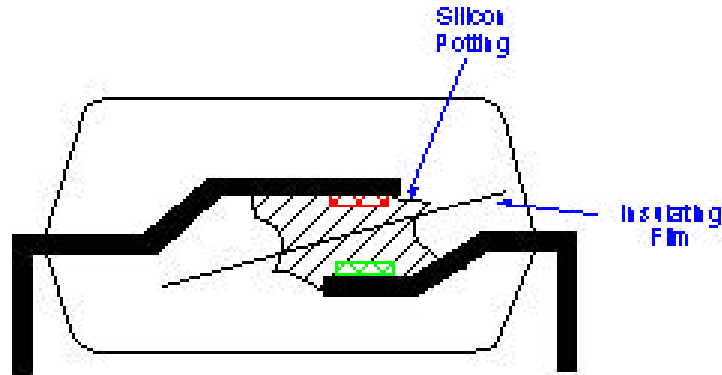
Marketing Manager
Rainer Ihra

Quality Assurance Manager
Lee Cheng Dee

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Internal Construction of new package

15 Jan, 1999



	"Existing" Package	"New" Package
Package Dimensions		
Body Length	9.65 +/-0.25 mm	9.65 +/-0.25 mm
Body Width	6.35 +/- 0.25 mm	6.35 +/- 0.25 mm
Body Height	4.7 mm max.	4.7 mm max.
Lead Width	0.65 mm max	0.65 mm max
Insulation Specifications		
Min. External Air Gap	7.4 mm	7.4 mm
Min. External Tracking Path	8.0 mm	8.0 mm
Min. Internal Plastic Gap	0.5 mm	0.5 mm
Tracking Resistance	≥ 175 V	≥ 175 V
Isolation Group	IIIa	IIIa

Table 1

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VDE 0884 Insulation Characteristics

	"Existing" Package	"New" Package
Installation Classification per DIN VDE 0110/1.89, Table 1		
for rated mains voltage ≤ 300 Vrms	I-IV	I-IV
for rated mains voltage ≤ 450 Vrms	I-III	I-III
for rated mains voltage ≤ 600 Vrms		I-III
Climatic Classification	40/100/21	55/100/21
Pollution Degree	2	2
Maximum Working Insulation Voltage	848 Vpk	891 Vpk
Input to Output Test Voltage, Method b	1591 Vpk	1670 Vpk
Input to Output Test Voltage Method a	1273 Vpk	1336 Vpk
Highest Allowable Overvoltage	6000 Vpk	6000 Vpk
Safety Limiting Values		
Case Temperature	175 °C	175 °C
Input Current	80 mW	400 mW
Output Power	250 mW	500 mW
Insulation Resistance	$\geq 10^{12} \Omega$	$\geq 10^9 \Omega$

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HCPL-7800/A (old) vs HCPL-7800/A (new)

Summary

Parameter	HCPL-7800/A (old) ¹		HCPL-7800/A (new) ¹	Comments
PACKAGE CHARACTERISTICS				
Package Style	8-pin PDIP		8-pin PDIP	
Input-Output Momentary Withstand Voltage	3750 Vrms		3750 Vrms	
Input-Output Resistance	$\geq 10^{12} \Omega$		$\geq 10^9 \Omega$	
Input-Output Capacitance	0.7 pF		0.8 pF	
INSULATION AND SAFETY RATED SPECIFICATIONS				
External Clearance (min)	7.4 mm		7.4 mm	
External Creepage (min)	8.0 mm		8.0 mm	
Internal Clearance (min)	0.08 mm		0.5 mm	
Tracking Resistance	$\geq 175 \text{ V}$		$\geq 175 \text{ V}$	
Isolation Group	IIIa		IIIa	
ABSOLUTE MAXIMUM RATINGS				
Storage Temp	-55/125°C		-55/125°C	
Ambient Oper. Temp	-40/100°C		-40/100°C	
Supply Voltages	0.0/5.5 V		0.0/5.5 V	
Steady State Input Voltage	$-2.0/\sqrt{DD1} + 0.5 \text{ V}$		$-2.0/\sqrt{DD1} + 0.5 \text{ V}$	
Two Second Transient Input Voltage	$-6.0/\sqrt{DD1} + 0.5 \text{ V}$		$-6.0/\sqrt{DD1} + 0.5 \text{ V}$	
Output Voltages	$-0.5/\sqrt{DD2} + 0.5 \text{ V}$		$-0.5/\sqrt{DD2} + 0.5 \text{ V}$	
Lead Solder Temp.	260°C		260°C	
RECOMMENDED OPERATING CONDITIONS				
Ambient Operating Temp.	-40/+85°C		-40/+85°C	
Supply Voltages	4.5/5.5 V		4.5/5.5 V	
Input Voltage	-200/200 mV		-200/200 mV	

Notes

1. Performance comparisons shown are of the appropriate min., typ. or max. limit found on the data sheet

HCPL-7800/A (old) vs HCPL-7800/A (new)

Parameter	HCPL-7800/A (old) ¹	HCPL-7800/A (new) ¹	Comments
DC ELECTRICAL SPECIFICATIONS			
Input Offset Voltage (min/max)	-1.8/0.0 @ +25°C	-2.0/2.0 @ +25°C -3.0/3.0 mV @ -40 to +85°C	
Gain (HCPL-7800A)	7.85/8.01	7.92/8.08	
Gain (HCPL-7800)	7.61/8.4	7.76/8.24	
200 mV Nonlinearity (max)	0.35 %	0.35 %	
100 mV Nonlinearity (max)	0.25 %	0.2 %	
Maximum Input Voltage before Output Clipping	300 mV	308 mV	
Average Input Bias Current	-0.67 uA	-0.5 uA	
Average Input Resistance	530 kΩ	500kΩ	
Input DC Common-Mode Rejection Ratio	72 dB	76 dB	
Output Resistance	11.0Ω	15.0 Ω	
Output Low Voltage	1.18 V	1.29 V	
Output High Voltage	3.61 V	3.80 V	
Output Common Mode Voltage (min/max)	2.20/2.60	2.20/2.80 V	
Input Supply Current (max)	15.5 mA	16.0 mA	
Output Supply Current (max)	14.5 mA	16.0 mA	
Output Short Circuit Current	9.3 mA	18.6 mA	
AC ELECTRICAL SPECIFICATIONS			
Common Mode Rejection (min)	10 kV/us	10 kV/us	
Prop. Delay to 50% (max)	5.6 us	5.6 us	
Prop. Delay to 90% (max)	9.9 us	9.9 us	
Rise/Fall Time (10% - 90%) (max)	6.6 us	6.6 us	
Small Signal Bandwidth (-3dB) (min)	50 kHz	50 kHz	

Notes

- Performance comparisons shown are of the appropriate min., typ. or max. limit found on the data sheet.