

Imaging Electronics Division(IED) Optical Navigation Change Notification

Notification Date : March 1, 2000

Re: HDNS-2000

Please be notified that Agilent Technologies is making the following product changes on the effective date noted for the products listed below. Satisfactory reliability data is being gathered and recorded to assure continuance of the high quality standards as set forth in our standard catalog parts.

Agilent Technologies Base Part Numbers Affected:

HDNS-2000 Optical Navigation Sensor

Description of Change:

- 1. Change tip of leads to tapered i.e. 25 degree taper to ¹/₂ original lead width.
- 2. Add new supplier to molded leadframe package.
- 3. Change resin used to mold the aperture plate (lid).
- 4. Change relief on inside of aperture to 20 degrees.
- 5. Remove one of two grooves on the outside surface of the aperture cone, on the shorter side of the lid.

These changes <u>will not</u> affect Fit, Form or Function of the product. In addition, the change will be qualified through standard Agilent Technologies procedures, and should not affect the operation of the device in standard applications.

Reason for Change:

- 1. The tapered lead change is to facilitate placement into board.
- 2. The additional leadframe package supplier is for second source of supply.
- 3. The change to the resin for the lid is the same resin as the leadframe molded package and using the same material provides for better process control at supplier. This change is also likely to improve moldability and reduce mold flashes, thus improving manufacturability.
- 4. The internal aperture angle change improves assembly tolerances for die alignment and for our customers' sensor alignment.
- 5. The removal of one groove on the lid allows for improved kapton tape adhesion with the increased area of contact and hence, improves manufacturability.

Implementation:

The implementation of this change is expected to be June 1, 2000.

Qualification/Reliability Data:

The qualification of new leadframe package supplier has been completed (see below) The qualification of resin change for aperture plate (lid) will be completed on March 15,2000 Reliability data will be furnished to customer on request.

Customer samples will be available May 2000 and will be provided upon a request basis.



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Reliability Test

- 1. Tapered lead change: No qual/rel data available.
- 2. Addition of new leadframe package supplier:

Test	Condition	Sample Size	Test Pt	Results
High Temp Operating Life	85°C	60	500hrs	0 rejects
Wet High temp operating life	85°C/85%RH	60	500hrs	0 rejects
Temperature cycle	-40°C/+85°C 15 mins dwell, 5	77	500 cycles	0 rejects
	mins transfer			
Unbiased Autoclave	121°C, 100%RH 2atm.	30	96hrs	0 rejects
Mechanical Shock	1500g, 0.5ms 3 shocks/axis	10	0, at post stress	0 rejects
Mechanical Vibration	20-2000Hz Random 4 mins, 4	10	0, at post stress	0 rejects
	times/axis			
Mark Permanency	Mil-Std-883E Method 2015	5	Na	0 rejects
Solderability	Mil-std-883E Method 2003	10	Na	0 rejects

3. Resin change for lid:

Test	Condition	Sample Size	Test Pt	Results
Temperature Cycle	-40°C/+85°C 15 mins dwell, 5	80	200 cycles	Avail.
	mins transfer			3/15/00
Mechanical Shock	1500g, 0.5ms 3 shock/axis	50	0, at post stress	Avail.
				3/15/00
Mechanical Vibration	20-2000Hz random 4 mins, 4	20	0, at post stress	Avail.
	times/axis			3/15/00

- 4. Internal aperture relief angle change: No qual/rel data available
- 5. Removal of one of two grooves on aperture cone of lid:

No qual/rel data available.

We request your feedback before April 1, 2000 in order to start the implementation as specified above.

Please contact your field sales engineer or me if you have any questions. Thank you for your attention to these changes.