



Title of Change:	Datasheet update PYTHON 300/500/1300		
Effective date:	22 February 2016		
Contact information:	Contact your local ON Semiconductor Sales Office or <Danny.Scheffer@onsemi.com>		
Type of notification:	ON Semiconductor will consider this change accepted.		
Change category:	<input type="checkbox"/> Wafer Fab Change <input type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input checked="" type="checkbox"/> Other Datasheet update		
Change Sub-Category(s):	<input type="checkbox"/> Manufacturing Site Change/Addition <input type="checkbox"/> Manufacturing Process Change		
	<input type="checkbox"/> Material Change <input type="checkbox"/> Product specific change		
	<input checked="" type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Other: _____		
Sites Affected:	<input type="checkbox"/> All site(s) <input checked="" type="checkbox"/> not applicable <input type="checkbox"/> ON Semiconductor site(s) : <input type="checkbox"/> External Foundry/Subcon site(s)		
Description and Purpose:	<p>The datasheet for the products referred to in this Product Bulletin has been revised to improve the performance and quality of these devices when in use. Operating the sensors as specified in the updated datasheet will enable optimal device performance, as tolerances listed in the previous datasheet revisions have proven to be too wide to guarantee optimal operation of these devices. While these devices will continue to operate correctly if run under the prior specifications, the acquired images may suffer from increased Fixed Pattern Noise (FPN), increased number of white or bright pixels, and / or other image artifacts. No change has been made to the sensor design, assembly, or final test procedures of these products as part of this datasheet revision.</p> <ul style="list-style-type: none"> • Page 1/3: Updated frame rates and power dissipation • Page 2: Updated ordering information with new parts and production package mark • Added OPN Naming Convention Decoder Link to TND310 • Page 4/5: Updated allowable variation on supplies, fin/fspi ratio and frame rates in Table 5 • Page 6/7: Replaced Responsivity with QE curves for mono/color and mono/NIR • Page 8/9: Added section on ray angle and Micro lens Array Information • Page 17-23: Updated required SPI uploads for improved image optimization. Removed references to P1-SN/SE 8-bit mode with PLL, P1-SN/SE 8-bit mode without PLL, P1-SN/SE 10-bit mode without PLL. Removed register uploads for Normal ROT operation (The registers upload for Normal ROT mode operation can be found at the following ON Semiconductor website: https://www.onsemi.com/PowerSolutions/myon/erCispFolder.do) • Page 27: Added description of black calibration factors freeze to Table 19 (blackcal_offset) • Page 33: Corrected register configuration for binning • Page 33: Added section on output channel multiplexing • Page 34: Removed Register Uploads for Multiple Slope Operation • Page 37: Updated signal Path Gain Settings in Table 22 • Page 41: Added section on Mode Changes and Frame Blanking • Page 42: Updated Register Settings for Monitor Select Pins • Page 55-66: Updated Register Map for improved image optimization • Page 69: Updated Mechanical Specification Table • Page 70-71: Updated Package Drawings • Page 73: Updated Specifications and Useful References 		

**Acceptance criteria rev3 revision:**

All changes have been tightening of criterion to improve on outgoing quality. The PYTHON 1300 acceptance criteria can be accessed at the Image Sensor Portal at onsemi.com/MyON.

- Added NIR options on the PYTHON 0.3MP, 0.5MP and 1.3MP
- Added protective foil option on all LVDS options
- Tightened limits on Pixel FPN, Temporal Noise, Column FPN, Row FPN, PRNU
- Adjusted limits on Power Dissipation with optimized register settings
- Tightened max limit on Dark Average Response from 35 LSB10 to 28 LSB10
- Tightened dark threshold for defective column/row tests from 48 LSB10 to 30 LSB10 for LVDS, and 35 LSB10 for CMOS
- Tightened dark threshold for defective pixels tests from 48 LSB10 to 30 LSB10 for LVDS, and 40 LSB10 for CMOS
- Separated defective row/column/pixel specifications for LVDS and CMOS devices
- Correction: Acceptance criteria are run on an "FPN corrected half scale image" for defective rows/columns/pixels
- Tightened allowed clusters limit for P500 and P300 devices
- Adjusted typical data sheet numbers in Table 4
- Removed Limited Warranty and ES marking section

List of Affected Standard Parts:**Part Number**

NOIP1SN1300A-QDI
NOIP2SN1300A-QDI
NOIP1FN1300A-QDI
NOIP1SE1300A-QDI
NOIP2SE1300A-QDI
NOIP1SN1300A-QTI
NOIP1SE1300A-QTI
NOIP1FN1300A-QTI
NOIP1SN0500A-QDI
NOIP1FN0500A-QDI
NOIP1SE0500A-QDI
NOIP1SN0500A-QTI
NOIP1SE0500A-QTI
NOIP1FN0500A-QTI
NOIP1SN0300A-QDI
NOIP1FN0300A-QDI
NOIP1SE0300A-QDI
NOIP1SN0300A-QTI
NOIP1SE0300A-QTI
NOIP1FN0300A-QTI