



HY31 Series Quality Approval Sheet

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1 Foreword

HYCON positions ourselves as a leading manufacturer of high precision integrated circuits in analog and digital signal processing applications.

HYCON's quality system is in full accordance with ISO9000 procedures. Our products are not only innovative and leading-edge from a design perspective, but they are also, based on our reliability data, exceptionally robust and conform to industrial standards resulted from their high stability. HYCON strives to produce reliable and high-quality products that meet customers' requirements.

Due to the rising environmental concerns around the world, the need for environmental protection and hazardous (banned) substance elimination in electronic components and systems is receiving increased attention within the semiconductor and electronic industries. Therefore, HYCON has been devoted to the provision of Green products. Our products are Green Products that are in complete accordance with RoHS Directive (2002/95/CE) and are Halogen Free.

If necessary, please contact HYCON's sales/agents for more information, and we will keep on providing our best support and service to you.

2 ISO Certificate



Audited by creditworthy TÜV SÜD Asia Pacific Ltd. TÜV Süddeutschland Group, HYCON procured the anticipating certificate of ISO 9001:2008!

HYCON is certified in the scope of “Design, Manufacturing, Marketing and Service of Integrated Circuits”.

By fulfilling ISO 9001:2008, it is the very first stage of quality management system of HYCON Technology. We will continuously practice quality objective, “Consistent improvement”, “Willing to take challenges”, “Innovative thinking” and “Devoted to commitment” in every products realization and company evolving activities. HYCON is devoted to provide customers, representatives, suppliers with total satisfaction.

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3 Product Information

3.1 Product Identification

Model	Package Type	Pins	Package Drawing		Code***	Material Composition	MSL	Package reliability
HY31XX-D000	Die	-	D	000	-	Green*		Not need
HY31XX-L044	LQFP	44	L	044	-	Green	MSL**-3	Pass
HY31XX-L048	LQFP	48	L	048	-	Green	MSL-3	Pass
HY31XX-E016	SSOP	16	E	016	-	Green	MSL-3	Pass
HY31XX-M010	MSOP	10	M	010	-	Green	MSL-3	Pass

* Green Product



**MSL(Moisture Sensitivity Level)

***HY31XX series do not equip with programming code.

3.2 How to Identify HYCON Products

3.2.1 Package Type: Die

3.2.1.1 Product label on packing bag or inner box

Pb-free, Green

Model : _____

Packing : _____

Lot No : _____

D/C : _____

Q'TY : _____

Date : _____



Remark : _____

A "Pb-free,Green" mark means it is Green Products

3.2.1.2 Product label on dice tray :

Model	: _____
Lot No.	: _____
Q'ty	: _____
Date	: _____
Q.C.	: _____
Remark.	: _____

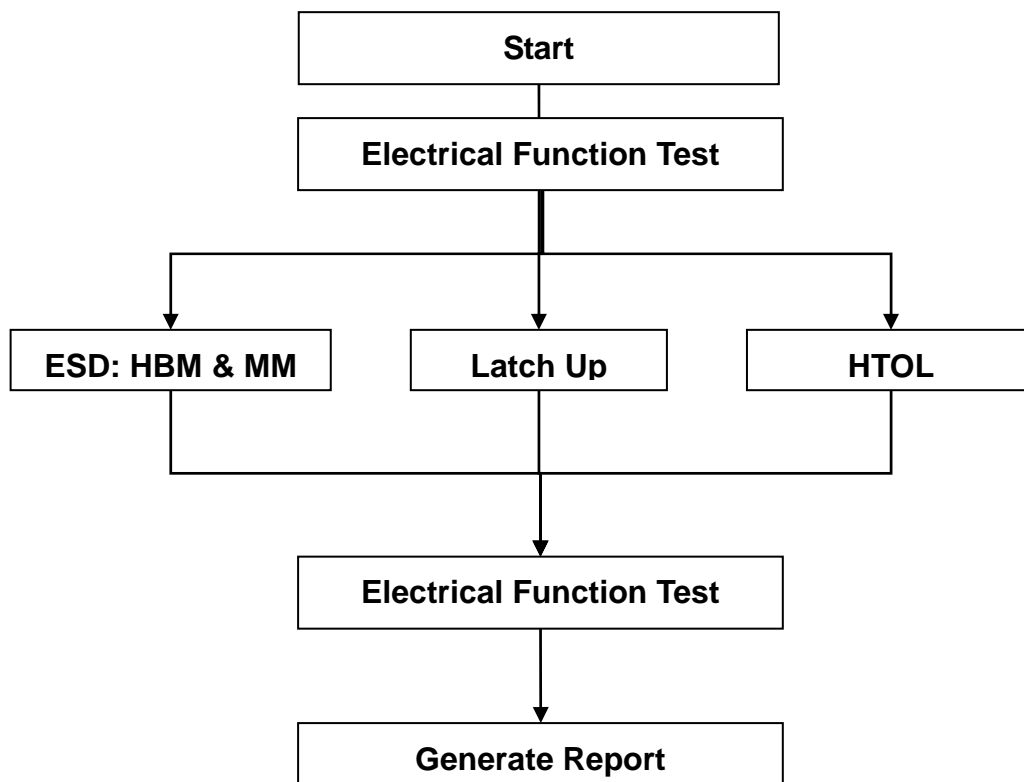
3.2.2 Package Type: LQFP SSOP MSOP series

 	
Model :	_____
Packing :	_____
Lot No :	_____
D/C :	_____
Q'TY :	_____
Date :	_____
Remark :	_____
	Pb-free, Green MSL:3 e3/260C

- 1 A "Pb-free, Green" mark means it is Green Products
- 2 MSL(Moisture Sensitivity Level)
- 3 e3(e3: Pure Sn) plating spec
- 4 260C : Peak temperature of IR reflow.
- 5 Item 2-4 data are show package type of product label only
- 6 All of above data refer IPC/JEDEC J-STD-609

4 Reliability Test Result Summary

4.1 Product Reliability Test Flow

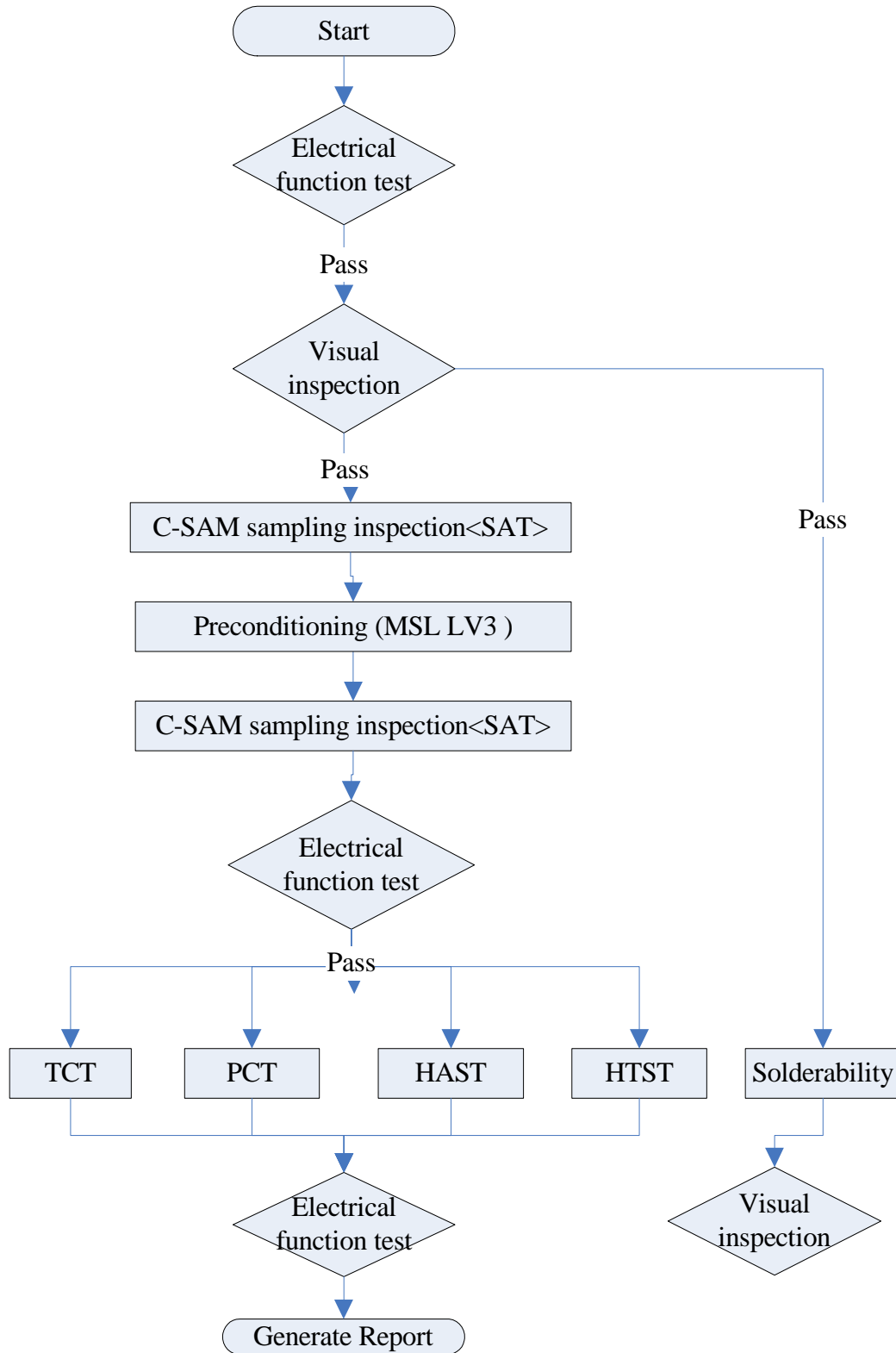


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4.2 Product Reliability Test Result

Test Item	Reference Document	Test Q'ty	Test Readout (hour)	Sampling Plan		Result
				SS/Acc	LTPD	
ESD-HBM	MIL-STD 883G Method 3015.7 class 3A	3	N/A	3/0	N/A	Pass +/- 4KV
ESD-MM	JESD22-A115 Class B	3	N/A	3/0	N/A	Pass +250/-400V
Latch up	JESD78 IT class I ; IT LEVEL A	3	N/A	3/0	N/A	Pass +200/-125mA
High Temperature Operating Life Test (HTOL)	MIL-STD-883-1005 JESD22-A108 HYC OLT-A11431B-V01	77	500	77/1	N/A	MTTF:502 years λ :227.15 FIT @ CL = 90%

4.3 Package Reliability Test Flow



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4.4 Package Reliability Test Result

Test Item	Reference Document	Test Q'ty	Test Readout (hour)	Sampling Plan		Result
				SS/Acc	LTPD	
Moisture Sensitivity Level Test (MSL)	JESD22-A113 MSL Level 3	410	N/A	410/11	5%	Pass
High Temperature Storage Test (HTST)	JESD22-A103	77	500/1000	77/1	5%	Pass
Temperature Cycling Test (TCT)	JESD22-A104	77	500 Cycles	77/1	5%	Pass
High Temperature Accelerated Stress Test (HAST)	JESD22-A110	45	100	45/0	5%	Pass
Pressure Cooker Test (PCT)	JESD22-A102	45	168	45/0	5%	Pass
Solderability	JESD22-B102	15	5 ± 0.5 sec	15/0	15%	Pass

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5 Environmental Test Item & Identification Product Label

5.1 Environmental Test Result

Restricted Material List	RoHS Directive (ppm)	SONY Green partner (SS-00259) (ppm)	Result
Cadmium(Cd)/ Cadmium compounds	100	5	Pass
Lead(Pb)/ Lead compounds	1000	100	Pass
Mercury(Hg)/ Mercury compounds	1000	Forbidden	Pass
(Cr VI) Hexavalent Chromium	1000	Forbidden	Pass
PBB	1000	Forbidden	Pass
PBDE	1000	Forbidden	Pass
(CFC), (HCFC), (PCB), (PCN), (CP), (Asbestos), (Azo compounds).	N/A	Forbidden	Pass
Cl Chlorine	N/A	900 ※	Pass
Br Bromine	N/A	900 ※	Pass
Total halogens contained	N/A	1500 ※	Pass

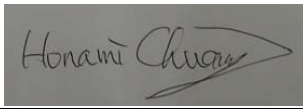
※Note1 : The definition is based on the specification of Apple (069-1857), Dell (A00-00), and Foxconn (ESD-A0RH-004). All of the above test items are examined by 3rd party annually.

6 RoHS Compliance Statement

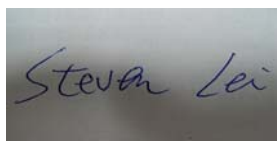
RoHS Compliance Statement

HY31XX series products are in conformity of following stipulations.

1. The concentration of Cadmium of heavy metals should be less than 5ppm(ICP) for a plastic product or a plastic part on electrical component (including rubber 、 painting 、 ink 、 pigment 、 dye and PVC thread) .
2. The concentration of Lead of heavy metals should be less than 100ppm(ICP) for a plastic product or a plastic part on electrical component (including rubber 、 painting 、 ink 、 pigment 、 dye and PVC thread) .
3. The banned substances include CFC 、 HCFC 、 PBB 、 PBDE 、 PCB 、 PCN 、 CP 、 Asbestos 、 Organic tin compounds 、 Azo compounds and Formaldehyde.
4. Hycon's definition for Halogen Free (HF) is less than or equal 900 ppm each of Bromine (Br) or Chlorine (Cl) or a cumulative total of 1500ppm of both.
5. **Test report:** SGS Reports provided by Hycon's wafer supplier UMC (United Microelectronics Corp.) and package assembly subcontractor GTK (Greatek Electronics Inc.) , TSHT(Tian Shui Hua Tian Microelectronics Co.,Ltd), HANA(Hana Microelectronics Co., Ltd. JiaXing)are available upon request.
You may download the reports directly from below SGS website as well (RSTS Database, http://www.rohs.tw.sgs.com/zh_tw/rohs_tw/rohs_3_tw.htm), after you receive the report number that we offer.



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