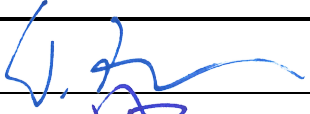
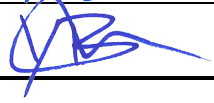
 <small>physical. chemical. biological.</small>	ECR - Engineering Change Request ECN - Engineering Change Notice	A22-079																					
ECN Classification:	Class II (customer notification only, no approval required)																						
Project:	SMD with soft termination	Release by <input type="checkbox"/> Customer <input checked="" type="checkbox"/> IST: Date / Signature <u>see page 2</u> Name (in block letters)/ Position																					
Division:	R&D																						
Product:	See product list in attachment																						
Customer:	all																						
Abstract of change:	Change of wrap around contacts (end termination) for surface mount devices																						
Attachment:	<input checked="" type="checkbox"/> Datasheet <input checked="" type="checkbox"/> Product List																						
<p>Reason(s) for change:</p> <p>The scope of the change is a technology upgrade to end termination according to the state-of-the-art technology leading to increased robustness of the sensor in customer's application.</p> <p>The aim of the technology upgrade is to improve the following parameters:</p> <ul style="list-style-type: none"> - Improved process reliability at soldering - Better long-term stability in thermal cycling and thermal shock conditions - Improved dimension reliability <p>There are no changes to the sensor characteristics or to the external dimensions (sensor length, width, height).</p>																							
<p>Change details:</p> <p>For internal approval, IST AG performed the following tests:</p>																							
<table border="1"> <thead> <tr> <th>Test procedure</th> <th>Details:</th> <th>Comment:</th> </tr> </thead> <tbody> <tr> <td>Long-term stability</td> <td>Aging and Thermal cycling</td> <td>1000 h duration, passed</td> </tr> <tr> <td>Solderability</td> <td>J_STD-002E Test A + A1</td> <td>passed</td> </tr> <tr> <td>Dewetting</td> <td>J_STD-002E Test A + A1</td> <td>passed</td> </tr> <tr> <td>Reflow Soldering & Profile</td> <td></td> <td>recommended profile in datasheet</td> </tr> <tr> <td>Temperature Cycling & Shear Test</td> <td>IEC 62137-1-2</td> <td>ongoing, internal tests passed</td> </tr> </tbody> </table>			Test procedure	Details:	Comment:	Long-term stability	Aging and Thermal cycling	1000 h duration, passed	Solderability	J_STD-002E Test A + A1	passed	Dewetting	J_STD-002E Test A + A1	passed	Reflow Soldering & Profile		recommended profile in datasheet	Temperature Cycling & Shear Test	IEC 62137-1-2	ongoing, internal tests passed			
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<p>The new wrap around contact (WAC) is based on a metalized polymer paste. To prevent the dissolution of the base metallization in solder, an additional galvanic plating nickel barrier layer and a tin layer as end termination for easy solderability and prevention of oxidation is plated.</p> <p>For the new manufacturing process, the sensor design was optimized. Both, the passivation glass and the pad, were improved in terms of chemical resistance.</p> <p>The table below gives an overview of all implemented changes and modifications:</p>																							
<table border="1"> <thead> <tr> <th>Sensor Type:</th> <th>2P</th> <th>2ST</th> </tr> </thead> <tbody> <tr> <td>Sensor element material</td> <td>Platinum</td> <td>Platinum</td> </tr> <tr> <td>Substrate type</td> <td>Ceramic - Al₂O₃</td> <td>Ceramic - Al₂O₃</td> </tr> <tr> <td>Glass passivation</td> <td>Glass I</td> <td>Glass II (higher chemical resistance)</td> </tr> <tr> <td>Pad composition (sensor level)</td> <td>Thin film</td> <td>Thick film</td> </tr> <tr> <td>Termination</td> <td>3-side</td> <td>5-side</td> </tr> <tr> <td>Termination material</td> <td>Adhesion layer + Au + Sn</td> <td>Metal polymer paste + Ni + Sn</td> </tr> </tbody> </table>			Sensor Type:	2P	2ST	Sensor element material	Platinum	Platinum	Substrate type	Ceramic - Al ₂ O ₃	Ceramic - Al ₂ O ₃	Glass passivation	Glass I	Glass II (higher chemical resistance)	Pad composition (sensor level)	Thin film	Thick film	Termination	3-side	5-side	Termination material	Adhesion layer + Au + Sn	Metal polymer paste + Ni + Sn
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Position	Name	Date & Signature
Quality Manager	Walter Zimmermann	05. Dec. 2022 
Team Leader Technology	Yannick Barb	05. Dec. 2022 

Attachment:

Affected Products / Product list:

Part No. Old	Part Name Old		Part Name New	Part No. New
100583	P0K1.1206.2P.A.S	-->	P0K1.1206.2ST.A.S	153481
100584	P0K1.1206.2P.B.S	-->	P0K1.1206.2ST.B.S	153482
100585	P1K0.1206.2P.A.S	-->	P1K0.1206.2ST.A.S	153484
100586	P1K0.1206.2P.B.S	-->	P1K0.1206.2ST.B.S	153485
100591	P0K5.1206.2P.B.S	-->	P0K5.1206.2ST.B.S	153496
100598	P0K5.1206.2P.B	-->	P0K5.1206.2ST.B	153297
100601	P0K1.1206.2P.A	-->	P0K1.1206.2ST.A	153288
100602	P0K1.1206.2P.B	-->	P0K1.1206.2ST.B	153289
100605	P1K0.1206.2P.B	-->	P1K0.1206.2ST.B	153293
100606	P1K0.1206.2P.A	-->	P1K0.1206.2ST.A	153291
100610	P0K5.1206.2P.A	-->	P0K5.1206.2ST.A	153296
100611	P0K5.1206.2P.A.S	-->	P0K5.1206.2ST.A.S	153495
100625	P1K0.1206.2P.C	-->	P1K0.1206.2ST.C	153294
100629	P0K1.1206.2P.C	-->	P0K1.1206.2ST.C	153290
100669	P0K5.1206.2P.C	-->	P0K5.1206.2ST.C	153301
100773	P10K.1206.2P.B	-->		please contact IST
100774	P10K.1206.2P.C	-->		please contact IST
100957	P1K0.1206.2P.A.S	-->	P1K0.1206.2ST.A.S	153470
100960	P1K0.1206.2P.B.S	-->	P1K0.1206.2ST.B.S	153472
100964	P0K1.1206.2P.A.S	-->	P0K1.1206.2ST.A.S	153303
100985	P0K1.1206.2P.B.S	-->	P0K1.1206.2ST.B.S	153304
101013	P0K1.1206.2P.D	-->	P0K1.1206.2ST.C	153290
101024	P0K1.1206.2P.D.S	-->	P0K1.1206.2ST.C.S	153305
101464	P10K.1206.2P.B.S	-->		please contact IST
152052	P0K1.1206.2P.B.S	-->	P0K1.1206.2ST.B.S	153304
152053	P0K1.1206.2P.A.S	-->	P0K1.1206.2ST.A.S	153303
152056	P1K0.1206.2P.B.S	-->	P1K0.1206.2ST.B.S	153472
152057	P1K0.1206.2P.A.S	-->	P1K0.1206.2ST.A.S	153470
152490	NB4K7.1206.2P.K	-->		please contact IST
152731	ND234.1206.2P.K.S	-->		please contact IST
152839	P1K0.1206.2P.K.S	-->		please contact IST
153727	ND234.1206.2P.K	-->		please contact IST