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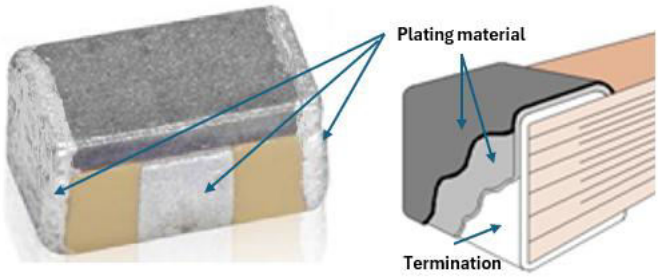
3rd September 2026

PCN (Product Change Notification) reference: **2026/11**

Subject: Introduction of Second Plating Supplier for SBSPP product

Dear Customer,

The purpose of this notification is to advise that Knowles is introducing a second plating supplier for SBSPP product. The reason for this change is to mitigate risks associated with a single supplier to prevent potential future business disruption.



Component Diagram

The second plating supplier has been processing all MLCC commercial part numbers for greater than 7 years (refer to PCN 201915) and there have been no Knowles or customer issues related to the second plating supplier. The qualification data packs are available on request. The plating supplier is also certified to IATF 16949.

An example of part numbers affected by this change is detailed on the next page. Samples are available on request.

For the new plating supplier, there is no change with respect to Knowles product performance or specifications. There is no change necessary to customer assembly processes.

Customers are requested to respond to this PCN within 30 days to advise if any samples or additional customer qualification is required.
If you require further information, please contact your local Knowles customer service office.

Yours sincerely,

Myths Shang
Quality Manager, Knowles Precision Devices

PCN Details

PCN reference: 2026/11

PCN Issue Date: 3rd September 2026

Product Ranges: All Knowles part numbers beginning with “SBSPP”.
Example: SBSPP1000103MXT

SBSPP	100	0103	M	X	T
Project	Voltage	Capacitance	Tolerance	Dielectric	Package

Request Description: Second Resource of Plating process

Reasons for Request: Mitigate risks associated with a single supplier.

Changes to Form, Fit or Function: No changes to component specifications and no change to part numbers

Changes to Quality or Reliability: None.

Changes to Part Numbers: None.

Qualification Results: Qualification results will be provided on request.

Are Samples Available? Available on request.

Implementation date: Shipments starting 90 days after PCN issue date

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Qualification Test Report	
Family	Second plating line qualification for SBSPP project
Type	SM EMI Filter
Date	13-Aug-2026
Author	Levin Lu
PE Approver	Matthew Xu
QA Approver	Myths Shang
Report Version	1.0

Description

This qualification test is for the second plating process applied to the SBSPP family of Surface Mount EMI Filter components; this addition is to supply chain safety risk mitigation.

This qualification enables the SBSPP products to be manufactured using the second plating line as an alternative source, allowing for switching in the event of any production issues at current plating.

Range Scope

The purpose of this report is to provide qualification test information for SBSPP family.
This qualification report applies to all SBSPP.

Parts tested

Qualification programmers are conducted using component families to cover the different component ranges.

Dielectric	Voltage	Capacitance
X7R	25V	100nF
	50V	22nF
	100V	15nF
	100V	1nF
C0G	100V	100pF
	50V	22pF
	100V	470pF

Qualification tests have been conducted in accordance with:

- Knowles defined specification for SBSPP range, with test references as below:
- Product Datasheet and AEC-Q200 revision E.

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Test Plan and Results Summary

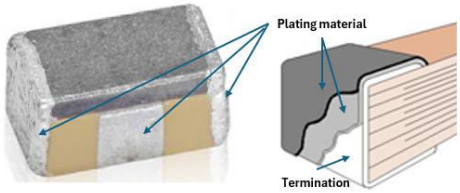
Test item#	Description	Test Conditions	No. lots Tested	Qty. Tested	PASS / FAIL
1	Temperature Cycling	**JESD22-A104F** (1000 cycles (-55ºC to +125ºC) Measurement @ 24±2 hours after test conclusion)	7	539	Pass
2	Destructive Physical Analysis	**EIA-469 & Knowles internal standards** Applies to SMD Ceramics & SMD inductors	7	203	Pass
3	Biased Humidity	**MIL-STD 202 Method 100** (168 hours 85ºC/85%RH. Rated voltage . Measurement @ 24±2 hours after test conclusion) *Biased Humidity test conducted by Knowles with rated voltage or 50Vdc (whichever is the least) applied.*	7	1078	Pass
4	Operational Life	**MIL-STD 202 Method 108 & WI0010** (Condition D Steady State TA = 125ºC. Rated Voltage Applied Voltage <500V 1.5x Rated Voltage ≥500V 1.0x Rated Voltage Soldered to PCB, operating current 1A applied during the test. Measurement @ 24 ± 2 hours after test conclusion)	7	539	Pass
5	External Visual	**MIL-STD-883 Method 2009 (QP34 & WI0010)** Inspect device construction, marking and workmanship	7	All	Pass
6	Physical Dimension	**JESD22-B100 (Datasheet)** Verify physical dimensions to the applicable device specification	7	210	Pass
7	Resistance to Soldering Heat	**MIL-STD 202 Method 210** (Condition B. No pre-heat of samples)	7	280	Pass
8	Solderability	**J-STD-002** (Magnification 50x. Conditions: a) Method B, 4 hrs @ 155ºC dry heat @ 235ºC b) Method B @ 255ºC category 3 c) Method D category 3 @ 260ºC)	7	315	Pass
9	Electrical Characterization	**Knowles Spec. (Datasheet of product, include Insertion Loss and DCR)** Sampling 5pcs for Insertion Loss on open board between 5kHz to 1GHz.	7	All	Pass
10	Terminal Strength	**MIL-PRF-123 4.6.12.2.** Attach pin and pull 1kg 5s. Applies to end and side terminations.	7	210	Pass
11	MSL	**J-STD-020D**	7	175	Pass
12	85/85 Reflow	**MIL-STD 202 Method 100 & EIA-469 & Knowles internal standards**	7	175	Pass
	Total			3724	Pass

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1. Temperature Cycling

Test Ref:	Temperature Cycling
Test Description:	1000 cycles of -55°C to + 125°C, 15 minutes min soak time at each extreme.
Qual Family Qty Tested:	539 pcs
Additional Requirements	Measurement at 24 ± 2 hours after test.
Reference	JESD22-A104F
Criteria	C0G: Capacitance change ≤ 1% or 1 pF (whichever is the greater) Tangent of loss angle δ ≤ 2x initial specification Final IR > 10% of the initial specification. X7R: Capacitance change ≤ 15% Tangent of loss angle δ ≤ 0.070 Final IR > 10% of the initial specification
Test Result	Pass

2. Destructive Physical Analysis

Test Ref:	Destructive Physical Analysis
Test Description:	Applies to SMD Ceramics & SMD inductors. 
Qual Family Qty Tested:	203 pcs
Reference	EIA-469 & Knowles internal standards
Test Result	Pass

3. Biased Humidity

Test Ref:	(1) – Biased Humidity
Test Description:	1.5VDc at 85°C/85% RH
Test Duration:	1000hrs
Qual Family Qty Tested:	539 pcs
Additional Requirements	Measurement at 24 ± 2 hours after test.
Reference	MIL-STD-202 Method 103
Criteria	Final IR > 10% of the initial requirement
Test Result	**PASS**

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Test Ref:	**(2) – Biased Humidity**
Test Description:	Rated voltage or 50VDc at 85°C/85% RH
Test Duration:	168hrs
Qual Family Qty Tested:	539 pcs
Additional Requirements	Measurement at 24 ± 2 hours after test.
Reference	MIL-STD-202 Method 103
Criteria	Final IR > 10% of the initial requirement
Test Result	Pass

4. Operational Life

Test Ref:	**Operational Life**
Test Description:	Condition D Steady State T=125°C. Rated Voltage Applied Voltage <500V 1.5x Rated Voltage ≥500V 1.0x Rated Voltage Soldered to PCB, Operating current 1A applied during the test.
Test Duration:	1000hrs
Qual Family Qty Tested:	539 pcs
Additional Requirements	Measurement at 24 ± 2 hours after test.
Reference	MIL-STD-202 Method 108 & WI0010
Criteria	C0G: Capacitance change ≤ 2% or 1 pF (whichever is the greater) Tangent of loss angle δ ≤ 2x initial specification Insulation resistance Ri ≥ 4000MΩ or 40s (whichever is less) X7R: Capacitance change ≤ 20% Tangent of loss angle δ ≤ 0.07 Insulation resistance Ri ≥ 2000MΩ or 50s (whichever is less)
Test Result	Pass

5. External Visual

Test Ref:	**External Visual**
Test Description:	Inspect device construction, marking and Workmanship.
Qual Family Qty Tested:	ALL
Reference	MIL-STD-883 Method 2009 (QP34 & WI0010)
Test Result	Pass

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6. Physical Dimension

Test Ref:	Physical Dimension
Test Description:	Measure the length/ width/ thickness of the physical dimensions.
Qual Family Qty Tested:	210 pcs
Reference	JESD22 Method JB100
Test Result	Pass

7. Resistance to Soldering Heat

Test Ref:	Resistance to Soldering Heat
Test Description:	Condition K for SMD (Reflow) Time above 217 °C, 60s-150s
Qual Family Qty Tested:	280 pcs
Criteria	C0G: Capacitance change ≤ 0.5% or 0.5 pF (whichever is the greater) X7R: Capacitance change ≤ -10%/+20%
Test Result	Pass

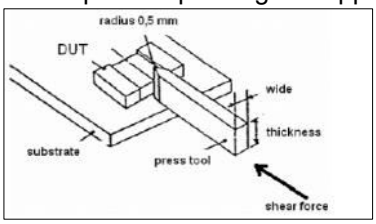
8. Solderability

Test Ref:	Solderability
Test Description:	(Magnification 50x. Conditions: a) Method B, 4 hrs @ 155ºC dry heat @ 235ºC b) Method B @ 255ºC category 3 c) Method D category 3 @ 260ºC)
Qual Family Qty Tested:	315 pcs
Reference	J-STD-002
Test Result	Pass

9. Electrical Characterization

Test Ref:	Electrical Characterization
Test Description:	Parametrically test per lot and sample size requirements, summary to show Min, Max, Mean and Standard deviation at room as well as Min and Max operating temperatures. Sampling 5pcs for Insertion Loss on open board between 5kHz to 1GHz.
Qual Family Qty Tested:	All
Reference	Knowles Spec.
Criteria	Knowles Spec. (Datasheet of product, include Insertion Loss and DCR)
Test Result	Pass

10. Terminal Strength

Test Ref:	Terminal Strength
Test Description:	Attach pin and pull 1kg 5s. Applies to end and side terminations. 
Qual Family Qty Tested:	120 pcs
Reference	MIL-PRF-123 4.6.12.2.
Criteria	Visual inspection and electrical test as per device specification
Test Result	Pass

11. MSL (Moisture Sensitivity Level)

Test Ref:	MSL
Test Description:	Check the status of the product's VI and electrical performance after testing.
Qual Family Qty Tested:	120 pcs
Reference	J-STD-020D & datasheet
Test Result	Pass

12. 8585 reflow

Test Ref:	8585 reflow
Test Description:	Check the status of the product's VI and electrical performance after testing.
Qual Family Qty Tested:	120 pcs
Reference	MIL-STD 202 Method 100 & EIA-469 & Knowles internal standards
Test Result	Pass

Individual Report Change Control

Version	Changes	Author	Date
1.0	New release	Levin Lu	2026-08-13