

PRODUCT CHANGE NOTICE PCN Form (D4-E000-73)

PCN#19-049

NOTIFICATION DATE: April 22, 2019

MODEL(S) AFFECTED:

MMIC Devices using Package types:
MAV, MCLP, MXC, MXP, SOIC, SOT-143, SOT-23, SOT-89 (see attached list for specific models)

EXTENT OF CHANGE:

- Replacement of existing SnAgNi (tin-silver over nickel) plating with industry standard 100% Matte-Tin for RoHS + suffix part numbers

EFFECT OF CHANGE:

- No change to FIT (dimensions) or FUNCTION (electrical or process performance)
- Change to FORM in the surface plating used to interface with customer assembly
- Surface plating for affected models is evaluated and qualified per our standard process for solderability, joint reliability and tin whisker and is already in use with other existing Mini-Circuits MMIC products.

REASON FOR CHANGE:

Existing plating supplier shut-down, SnAgNi is unique to this supplier. Matte tin is a well-established RoHS compliant finish in the industry, and currently used extensively at Mini-Circuits on other MMIC products. Mini-Circuits will offer SnPb plating as a customer special for those with 'No Pure Tin' restrictions. Contact Sales for quoted delivery.

EFFECTIVE DATE OF CHANGE:

- Immediate based on exhaustion of stock or customer request
- For Samples if required, please contact your account manager or click on "[Contact Us](#)" to be contacted by a Mini-Circuits customer service representative

LAST TIME BUY OF EXISTING SnAgNi PLATED PARTS:

Acceptance of Last Time Buy Orders (as defined below) is subject to availability of existing SnAgNi plated parts ("Existing Parts") as determined by Mini-Circuits. All Last Time Buy Orders are non-cancellable and non-returnable. For purposes hereof, the term "Last Time Buy Orders" refers to orders for Existing Parts that are placed with Mini-Circuits on or after the notification date of this product change notice.

ATTACHMENTS:

List of applicable models
[Frequently Asked Questions and Qualification Report for the matte tin finish](#)

QUESTIONS?

[PLEASE CONTACT US.](#)

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** List of Affected Models **

AVA-183+	CY2-143+	ERA-1SM-7	ERA-3SM-22+	ERA-5+
AVA-183A+	D17IA+	ERA-2 99+	ERA-3SM-24+	ERA-50SM+
AVA-24+	D17W+	ERA-2+	ERA-3SM-30+	ERA-50SM-4+
AVA-24-1	D20C+	ERA-21SM+	ERA-3SM-31+	ERA-50SM-6+
AVA-24A+	D20C-3+	ERA-2-3+	ERA-3SM-32+	ERA-51HIREL
AVM-273HP+	EP2C+	ERA-2-5	ERA-3SM-38+	ERA-51SM+
AVM-273HPK+	EP2C-1+	ERA-29SM	ERA-3SM-39+	ERA-51SM-18.2DB
BP2C+	EP2C-2+	ERA-2HIREL	ERA-3SM-40+	ERA-5-2+
BP2C1+	EP2C-6+	ERA-2SM 99+	ERA-3SM-8+	ERA-5-3
BP2G+	EP2K+	ERA-2SM+	ERA-4+	ERA-59SM
BP2G1+	EP2K-1+	ERA-2SM-15	ERA-4-2+	ERA-59SM+
BP2G-6+	EP2K-2+	ERA-2SM-16+	ERA-4SM 99+	ERA-5SM+
BP2P+	EP2W+	ERA-2SM-16DB	ERA-4SM+	ERA-5SM-10
BP2P1+	EP2W1+	ERA-2SM-18+	ERA-4SM-10+	ERA-5SM-13+
BP2U+	ERA-1 99+	ERA-2SM-20+	ERA-4SM-11	ERA-5SM-14
BP2U1+	ERA-1+	ERA-2SM-22+	ERA-4SM-12	ERA-5SM-15+
BP4C+	ERA-1-3	ERA-2SM-24+	ERA-4SM-13	ERA-5SM-16
BP4C-1	ERA-1HIREL	ERA-2SM-25+	ERA-4SM-13.5DB	ERA-5SM-17
BP4C1+	ERA-1SM 99+	ERA-2SM-3+	ERA-4SM-14.4DB	ERA-5SM-19
BP4C-1+	ERA-1SM+	ERA-2SM-5+	ERA-4SM-15	ERA-5SM-2
BP4C1-2+	ERA-1SM-14+	ERA-2SM-7	ERA-4SM-16	ERA-5SM-20DB
BP4C1-3+	ERA-1SM-16+	ERA-3+	ERA-4SM-17+	ERA-5SM-22
BP4C-5	ERA-1SM-17+	ERA-33SM+	ERA-4SM-21+	ERA-5SM-23
BP4P+	ERA-1SM-18+	ERA-33SM-1+	ERA-4SM-6	ERA-5SM-30
BP4P1+	ERA-1SM-19+	ERA-3-4+	ERA-4SM-8	ERA-5SM-32+
BP4U+	ERA-1SM-4	ERA-3HIREL	ERA-4SM-9	ERA-5SM-37+
BP4U1+	ERA-1SM-5+	ERA-3SM 99+	ERA-4XSM+	ERA-5SM-38+
BP4U1-1+	ERA-1SM-6+	ERA-3SM+	ERA-4XSM-2+	ERA-5SM-4

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ERA-5SM-40+	GALI-3+	GALI-51+	GALI-6-8+	GAT-12+
ERA-5SM-6+	GALI-3-10+	GALI-5-1+	GALI-6-9+	GAT-15+
ERA-5SM-7	GALI-3-16+	GALI-51-11+	GALI-6F+	GAT-2+
ERA-5SM-9	GALI-3-3	GALI-51-12+	GALI-6F-5+	GAT-20+
ERA-5XSM+	GALI-33+	GALI-51-2+	GALI-6F-7+	GAT-2-1+
ERA-6+	GALI-33-1	GALI-5-12+	GALI-74+	GAT-2-2+
ERA-6SM+	GALI-33-5+	GALI-51-9+	GALI-74-10+	GAT-3+
ERA-6SM-10+	GALI-33-6+	GALI-51F+	GALI-74-11+	GAT-30+
ERA-6SM-12+	GALI-3-6+	GALI-51F-1+	GALI-74-13+	GAT-3-1+
ERA-6SM-14+	GALI-3-7+	GALI-52+	GALI-74-15+	GAT-3-2+
ERA-6SM-15+	GALI-39+	GALI-52-4+	GALI-74-5+	GAT-4+
ERA-6SM-16+	GALI-39-10+	GALI-5-3	GALI-74-6+	GAT-4-2+
ERA-6SM-2+	GALI-39-11+	GALI-5-3+	GALI-74-7+	GAT-5+
ERA-6SM-8+	GALI-39-13+	GALI-55+	GALI-84+	GAT-6+
ERA-8SM+	GALI-39-14+	GALI-55-1+	GALI-84-1+	GAT-6-1+
ERA-8SM-1+	GALI-39-3+	GALI-55-2+	GALI-84-2+	GAT-7+
ERA-8SM-2+	GALI-39-8+	GALI-5-8+	GALI-84-4+	GAT-8+
ERA-9SM+	GALI-4+	GALI-5-9	GALI-84-7+	GAT-9+
GALI-21+	GALI-4-1+	GALI-59+	GALI-REP-1+	GAT-9-1
GALI-2-10+	GALI-4-10+	GALI-59-3+	GALI-S66+	GP2S+
GALI-21-1	GALI-4-11+	GALI-59-5+	GALI-S66-2+	GP2S1+
GALI-21-1+	GALI-4-13+	GALI-5F+	GALI-S66-4+	GP2S1-5+
GALI-21-3+	GALI-4-3	GALI-5F-1+	GALI-S66-5+	GP2S-3+
GALI-21-6+	GALI-4-6	GALI-5F-2+	GAT-0+	GP2S-4+
GALI-21-7+	GALI-4-8+	GALI-6+	GAT-0-1+	GP2S-7+
GALI-24+	GALI-49+	GALI-6-11+	GAT-0-2+	GP2X+
GALI-29+	GALI-4F+	GALI-6-2+	GAT-1+	GP2X1+
GALI-2-9+	GALI-5+	GALI-6-3	GAT-10+	GP2X-1+

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GP2X1-11+	GVA-62-2+	K-LAT-1+	LAT-4-6+	LEE-9+
GP2X1-12+	GVA-62-3+	KXMA-1+	LAT-4-7+	LHA-1+
GP2X1-2+	GVA-63+	LAT-0+	LAT-5+	LHA-1H+
GP2X1-3+	GVA-63-1+	LAT-0-1+	LAT-5-8+	LLM-43-1+
GP2X1-5+	GVA-63-2+	LAT-0-2+	LAT-6+	LVA-123+
GP2X1-6+	GVA-63-3+	LAT-0-4+	LAT-6-6+	LVA-84-1+
GP2X-2+	GVA-63-5+	LAT-1+	LAT-6-7+	M3SWA-2-50DR10+
GP2X-3+	GVA-63-6+	LAT-10+	LAT-7+	M3SWA-2-50DR-8+
GP2X-4+	GVA-81+	LAT-10-6+	LAT-7-5+	M3SWA-2-50DRA+
GP2X-5+	GVA-81-2+	LAT-1-10+	LAT-8+	MAR-1+
GP2X-6+	GVA-81-3+	LAT-12+	LAT-8-6+	MAR-1-11
GP2X-7+	GVA-81-5	LAT-15+	LAT-9+	MAR-1-3
GP2Y+	GVA-82+	LAT-15-4+	LEE-19+	MAR-1-7
GP2Y1+	GVA-82-2+	LAT-1-8+	LEE-19-3+	MAR-1-8
GP2Y-1+	GVA-82-3+	LAT-1-9+	LEE2-6+	MAR-1-9
GP2Y1-2+	GVA-83+	LAT-2+	LEE-29+	MAR-1A
GP2Y1-4+	GVA-83-1+	LAT-20+	LEE-29-4-1+	MAR-1A+
GP2Y1-5+	GVA-83-6+	LAT-20-1	LEE-29-7+	MAR-1SM+
GP2Y-3+	GVA-84+	LAT-20-5+	LEE-29-8+	MAR-1SM-10
GVA-123+	GVA-84-1+	LAT-2-6+	LEE-39+	MAR-1SM-11+
GVA-123-1+	GVA-84-2+	LAT-2-8+	LEE-39-10+	MAR-1SM-2
GVA-123-2+	GVA-84-3+	LAT-3+	LEE-39-11	MAR-1SM-5
GVA-123-3+	GVA-84-4+	LAT-30+	LEE-39-12+	MAR-1SM-8
GVA-123-4+	GVA-84-8	LAT-3-10+	LEE-39-3+	MAR-2+
GVA-60+	GVA-84-9+	LAT-3-12+	LEE-39-5+	MAR-2-1
GVA-60-1+	GVA-91+	LAT-3-13+	LEE-39-6+	MAR-2-2
GVA-62+	GVA-92+	LAT-3-8+	LEE-49+	MAR-2-4
GVA-62-1+	GVA-93+	LAT-4+	LEE-59+	MAR-2SM+

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MAR-2SM-5	MAR-3SM-3	MAR-4SM-2	MAR-7SM-15+	MAV-11-6
MAR-2SM-6+	MAR-3SM-31+	MAR-4SM-3	MAR-7SM-6	MAV-11A+
MAR-3+	MAR-3SM-33+	MAR-4SM-4	MAR-7SM-8	MAV-11BSM+
MAR-3-10	MAR-3SM-5	MAR-4SM-6	MAR-7SM-9	MAV-11BSM-2+
MAR-3-11	MAR-3SM-6	MAR-4SM-7	MAR-7SM-HIREL	MAV-1A+
MAR-3-12.0DB	MAR-3SM-9	MAR-6+	MAR-8A+	MAV-2A+
MAR-3-16	MAR-4+	MAR-6-2.6DB	MAR-8A-1+	MAV-4SM
MAR-3-3	MAR-4-1	MAR-6-2.6SM	MAR-8ASM+	MAV-4SM+
MAR-3-4	MAR-4-10	MAR-6-8	MAR-8ASM-10+	MDA4-752H+
MAR-3-5	MAR-4-11	MAR-6SM+	MAR-8ASM-5+	MDB-24H+
MAR-3-7	MAR-4-12	MAR-6SM-11	MAR-8ASM-6+	MDB-73H+
MAR-3SM 99+	MAR-4-13	MAR-6SM-17.7DB	MAR-8ASM-7+	MDB-73H-2+
MAR-3SM+	MAR-4-14	MAR-6SM-18.6DB	MAR-8ASM-9+	MDB-73H-3+
MAR-3SM-10	MAR-4-15	MAR-6SM-25+	MAR-8SM-10	MERA-533+
MAR-3SM-11	MAR-4-16+	MAR-6SM-27	MAR-8SM-17+	MERA-556+
MAR-3SM-12	MAR-4-2	MAR-6SM-29+	MAR-8SM-18+	MERA-7433+
MAR-3SM-12DB-1	MAR-4-3	MAR-6SM-30+	MAR-8SM-19+	MERA-7433-1+
MAR-3SM-14	MAR-4-4	MAR-6SM-31+	MAR-8SM-21+	MERA-7456+
MAR-3SM-17	MAR-4-5	MAR-7+	MAR-8SM-3	MGVA-62+
MAR-3SM-19	MAR-4-7	MAR-7-12.8DB	MAR-8SM-6	MGVA-62-1+
MAR-3SM-20	MAR-4-8	MAR-7-4	MAV-11+	MGVA-63+
MAR-3SM-21	MAR-4-9	MAR-7-5	MAV-11-11	MNA-2A+
MAR-3SM-22	MAR-4SM+	MAR-7-6	MAV-11-12	MNA-2W+
MAR-3SM-23	MAR-4SM-11	MAR-7SM+	MAV-11-13	MNA-3A+
MAR-3SM-24+	MAR-4SM-13	MAR-7SM-12	MAV-11-14	MNA-4+TRH
MAR-3SM-25	MAR-4SM-15+	MAR-7SM-13	MAV-11-17	MNA-4-3
MAR-3SM-28	MAR-4SM-16+	MAR-7SM-13+	MAV-11-18	MNA-4A+
MAR-3SM-29+	MAR-4SM-17	MAR-7SM-14+	MAV-11-3	MNA-4A-1+

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MNA-4W+	PAT-1+	PAT-15+	PAT-3+	PAT-4-5
MNA-5-1	PAT-10+	PAT-15-1	PAT-30+	PAT-4-8
MNA-5A+	PAT-10-1	PAT-15-2	PAT-30-3+	PAT-5+
MNA-6-1	PAT-10-11+	PAT-15-3	PAT-30-4+	PAT-5-10+
MNA-6-2+	PAT-10-13+	PAT-15-7+	PAT-30-5+	PAT-5-11+
MNA-6-3	PAT-10-14+	PAT-15-8+	PAT-3-10	PAT-5-2
MNA-6-6+ LTB	PAT-10-15+	PAT-15-9+	PAT-3-11	PAT-5-3
MNA-6A+	PAT-10-17+	PAT-1-6	PAT-3-14	PAT-5-4
MNA-6A-1+	PAT-10-2	PAT-1-8	PAT-3-18	PAT-5-5
MNA-6A-2+	PAT-10-5	PAT-2+	PAT-3-2	PAT-5-6
MNA-6W+	PAT-10-6	PAT-20+	PAT-3-20+	PAT-5-9+
MNA-7-11+	PAT-10-7	PAT-20-1	PAT-3-22+	PAT-6+
MNA-7-3	PAT-10-9+	PAT-20-2	PAT-3-23+	PAT-6-1
MNA-7-4	PAT-1-1	PAT-20-3	PAT-3-24+	PAT-6-10
MNA-7-6+	PAT-1-11	PAT-20-6+	PAT-3-4	PAT-6-12
MNA-7A+	PAT-1-14+	PAT-20-7+	PAT-3-5	PAT-6-13+
MNA-7A-1+	PAT-1-16+	PAT-20-8+	PAT-3-7	PAT-6-15+
MPGA-105+	PAT-1-17+	PAT-20-9+	PAT-3-8	PAT-6-16+
MSW-2-20+	PAT-1-18+	PAT-2-10	PAT-3-9	PAT-6-17+
MSW-2-20-7+	PAT-12+	PAT-2-12+	PAT-4+	PAT-6-18+
MSW-2-20-8+	PAT-12-1	PAT-2-13+	PAT-4-10	PAT-6-19
MSWA-2-20+	PAT-12-2	PAT-2-14+	PAT-4-12+	PAT-6-2
MSWA-2-20-6+	PAT-12-4+	PAT-2-15+	PAT-4-13+	PAT-6-5
MTX2-73+	PAT-12-5+	PAT-2-2	PAT-4-14+	PAT-6-6
PAT-0+	PAT-12-6+	PAT-2-3	PAT-4-15+	PAT-6-7
PAT-0-1	PAT-1-3	PAT-2-4	PAT-4-2	PAT-7+
PAT-0-3+	PAT-1-4	PAT-2-5	PAT-4-3	PAT-7-1
PAT-0-4+	PAT-1-5	PAT-2-6	PAT-4-4	PAT-7-2

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PAT-7-3	PGA-103-11+	PHA-22-2+	RAM-4+	TAV-541+
PAT-7-6+	PGA-103-12+	PHA-22H+	RAM-4-14+	TAV-551+
PAT-7-7+	PGA-103-2+	PMA2-153LN+	RAM-4-7	TAV-581+
PAT-7-8+	PGA-103-3+	PMA2-33LN+	RAM-6A+	TP2G-1+
PAT-8+	PGA-103-4+	PMA2-43LN+	RAM-6A-1+	TP2G-3+
PAT-8-1	PGA-103-5+	PMA3-83LN+	RAM-7+	TSS-53LNB+
PAT-8-10+	PGA-103-8+	PMA3-83LN-10+	RAM-7-10	TSS-53LNB-2+
PAT-8-2	PGA-103-9+	PMA3-83LN-3+	RAM-7-11+	TSS-53LNB3+
PAT-8-3	PGA-105+	PMA3-83LN-4+	RAM-8A+	TSS-53LNB-4
PAT-8-4	PGA-105-1+	PMA3-83LN-5+	RAM-8A-1+	TSS-53LNB-5+
PAT-8-8+	PGA-105-2+	PMA3-83LN-6+	SP-2C+	VAM-3+
PAT-8-9+	PGA-105-3+	PMA3-83LN-7+	SP-2C1+	VAM-6+
PAT-9+	PGA-105-6+	PMA3-83LN-8+	SP-2C-1+	VAM-7+
PAT-9-1	PGA-105-7+	PMA3-83LN-9+	SP-2C-2+	VAM-7-2+
PAT-9-10+	PGA-106-75+	PMA4-33GLN+	SP-2G+	VAM-77+
PAT-9-11+	PGA-122-75+	PMA-545+	SP-2G1+	VAM-93+
PAT-9-12+	PHA-1+	PMA-5451+	SP-2L+	VNA-28B+
PAT-9-2	PHA-101+	PMA-5452+	SP-2L-1+	WP4A+
PAT-9-4	PHA-1-1+	PMA-5453+	SP-2L-2+	WP4A-1
PAT-9-5	PHA-1-12+	PMA-5454+	SP-2P+	WP4C+
PAT-9-6	PHA-1-15+	PMA-5455+	SP-2P1+	WP4C1+
PAT-9-9+	PHA-1-20+	PMA-5456+	SP-2U+	WP4C1-2+
PGA-102+	PHA-1-22+	PMA-545G1+	SP-2U1+	WP4F+
PGA-102-3+	PHA-1-4+	PMA-545G1-2	SP-2U2+	WP4F1+
PGA-102-4+	PHA-1-6+	PMA-545G1-3+	SP-2U2-1+	WP4G+
PGA-103+	PHA-1H+	RAM-1+	SP-2W+	WP4G1+
PGA-103-1+	PHA-22+	RAM-2+	SP-2W1+	WP4G-1+
PGA-103-10+	PHA-22-1+	RAM-3+	SP-2W1-1+	WP4G1-1+

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WP4L+	XLF-122-1	YSF-162+
WP4M+	XLF-123-2+	YSF-272+
WP4N+	XLF-133+	YSF-322+
WP4P+	XLF-133-1+	YSF-382+
WP4P1+	XLF-14+	
WP4P1-1+	XLF-151+	
WP4R+	XLF-173+	
WP4R-1	XLF-173-1+	
WP4R1+	XLF-173-2+	
WP4S+	XLF-192+	
WP4S-1	XLF-221+	
WP4U+	XLF-252+	
WP4U1+	XLF-252-1+	
WP4W+	XLF-332+	
WP4W1+	XLF-421+	
XBF-282+	XLF-551+	
XBF-282-1	XLF-63+	
XHF2-1162+	XLF-73+	
XHF2-1352+	XLF-73-1+	
XHF2-153+	XLF-732+	
XHF2-1832+	XLF-762+	
XHF-23+	XLF-861+	
XHF-252+	XLF-962+	
XHF2-912+	XLF-962-1+	
XHF-392+	XLF-982+	
XLF-122+	YSF-122+	
XLF-123+	YSF-2151+	
XLF-123-1+	YSF-232+	