

Design Change Notification

June 15th, 2022

To: Sanyo Denki America Cooling Distributors

Product: BLDC FAN MOTOR _____

Model: San Ace 92 (9S) 92mm sq. x 25mm thick
(Please refer Attached Sheet for a complete part number list.)

SANYO DENKI CO., LTD.
Design Dept., Cooling Systems Div.

Approved	Checked	Designed
		

SANYO DENKI America, Inc.
Cooling Systems Division

No.	Contents	Before Change	After Change	Description
1	Motor drive IC, electronic parts, Motor Windings and PWB	Use motor drive IC manufactured by ON-Semiconductor.	Use motor drive IC manufactured by Toshiba, Rohm or Nisshinbo-Micro-Devices.	Change to the motor drive IC due to discontinuation of production by the semiconductor manufacturer. Also change to some electric parts except IC, Motor windings and PWB due to the change of the motor drive IC.
2	Specifications	See the Attached Sheet.	See the Attached Sheet.	
3	Implementation Date			Implementation Date: From February, 2023 production (Estimated). Please note that the changeover schedule to new IC may change according to the number of products in the inventory.

No. A0053142 - Attached Sheet 1 – 1/2

[MODEL LIST]

San Ace 92(9S) – 92mm x 25mm thick

MODEL	Change contents
9S0912H4031	Attached Sheet 2
9S0912F401 9S0912F4011 9S0912F402 9S0912F4021 9S0912F403 9S0912F4041 9S0912F4051 9S0912F406 9S0912F4061 9S0912F407 9S0912F4071 9S0912F408 9S0912F4081 9S0912F4D01 9S0912F4D011 9S0912F4D04 9S0912F4D06 9S0912F4D09	Attached Sheet 3
9S0912M401 9S0912M4011 9S0912M402 9S0912M4021 9S0912M404 9S0912M405 9S0912M4051 9S0912M4061 9S0912M4071 9S0912M4081 9S0912M4D01 9S0912M4D011 9S0912M4D04	Attached Sheet 4

MODEL	Change contents
9S0912L401 9S0912L4011 9S0912L402 9S0912L4021 9S0912L403 9S0912L4031 9S0912L404 9S0912L4D01 9S0912L4D011 1022-108291	Attached Sheet 5
9S0912B4031	Attached Sheet 6
9S0912P4F01 9S0912P4F011 9S0912P4F041 9S0912P4F05 9S0912P4F051 9S0912P4F06 9S0912P4F07 9S0912P4F08 9S0912P4F09 9S0912P4F10 9S0912P4F11	Attached Sheet 7
9S0912P4M01 9S0912P4M011 9S0912P4M031 9S0912P4M04 9S0912P4M05 9S0912P4M06 9S0912P4M09 9S0912P4M10	Attached Sheet 8

No. A0053142 - Attached Sheet 1 – 2/2

[MODEL LIST]

San Ace 92(9S) – 92mm x 25mm thick

MODEL	Change contents
9S0924F401	
9S0924F4011	
9S0924F402	
9S0924F4021	
9S0924F4D01	
9S0924F4D03	
9S0924F4D04	
9S0924M401	
9S0924M4011	
9S0924M402	
9S0924M4021	
9S0924M403	Attached Sheet 9
9S0924M404	
9S0924M4D01	
9S0924L401	
9S0924L4011	
9S0924L402	
9S0924L4021	
9S0924L4D01	
9S0924L4D03	
9S0924L4D04	
9S0924L4D05	
9S0924F4011-A01	

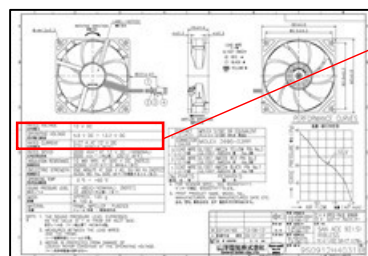
No. A0053142 - Attached Sheet 2

[MODEL]

9S0912H4031

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LA6584JA	TC78B002FNG
	Manufacture	On-semiconductor	Toshiba
Operating voltage		4.5 VDC to 13.2 VDC Refer to FIG.1	6 VDC to 13.2 VDC Refer to FIG.1
Rated electrical current		No change	
Speed		No change	
Operating temp.		No change	
Sound pressure level		No change	
Control terminal		Non-applicable	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		Non-applicable	
Sensor spec.		No change	

FIG.1**Before Change**

RATED VOLTAGE 定格電圧	12 V DC
OPERATING VOLTAGE 使用電圧範囲	4.5 V DC ~ 13.2 V DC

**After Change**

RATED VOLTAGE 定格電圧	12 V DC
OPERATING VOLTAGE 使用電圧範囲	6 V DC ~ 13.2 V DC

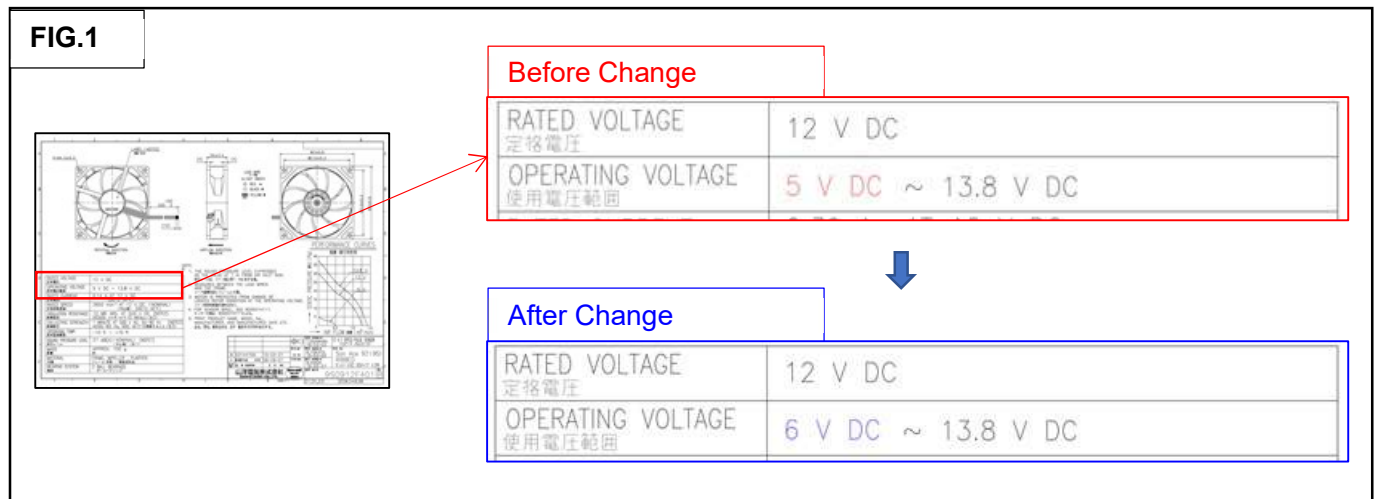
No. A0053142 - Attached Sheet 3

[MODEL]

9S0912F401, 9S0912F4011, 9S0912F402, 9S0912F4021, 9S0912F403, 9S0912F4041, 9S0912F4051,
 9S0912F406, 9S0912F4061, 9S0912F407, 9S0912F4071, 9S0912F408, 9S0912F4081,
 9S0912F4D01, 9S0912F4D011, 9S0912F4D04, 9S0912F4D06, 9S0912F4D09

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LA6584JA	TC78B002FNG
	Manufacture	On-semiconductor	Toshiba
Operating voltage		5 VDC to 13.8 VDC Refer to FIG.1	6 VDC to 13.8 VDC Refer to FIG.1
Rated electrical current		No change	
Speed		No change	
Operating temp.		No change	
Sound pressure level		No change	
Control terminal		Non-applicable	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		Non-applicable	
Sensor spec.		No change	



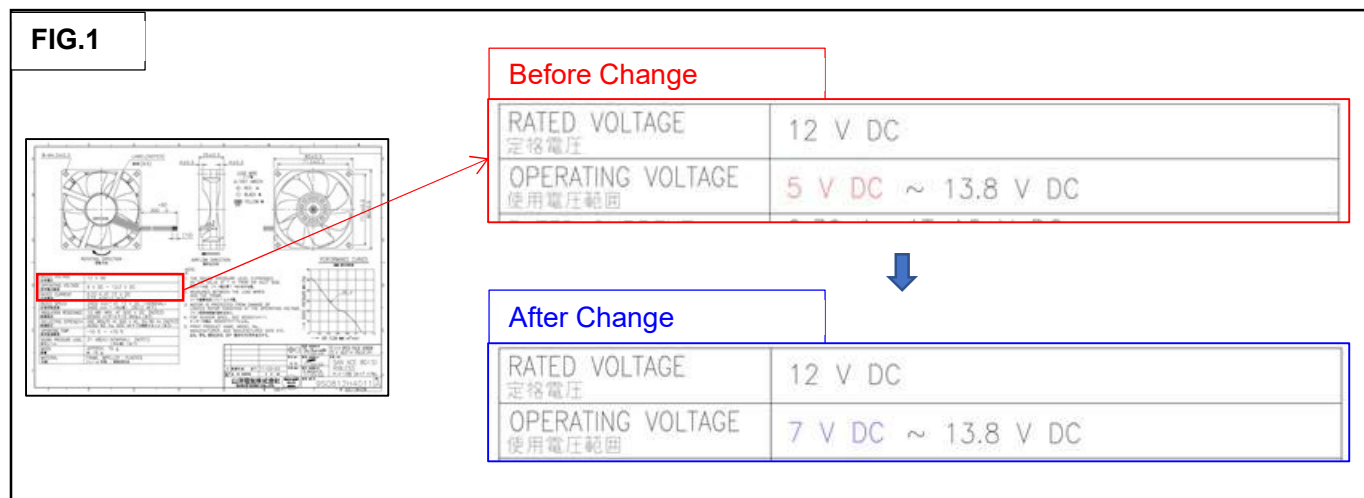
No. A0053142 - Attached Sheet 4

[MODEL]

9S0912M401, 9S0912M4011, 9S0912M402, 9S0912M4021, 9S0912M404, 9S0912M405, 9S0912M4051,
 9S0912M4061, 9S0912M4071, 9S0912M4081,
 9S0912M4D01, 9S0912M4D011, 9S0912M4D04

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LA6584JA	TC78B002FNG
	Manufacture	On-semiconductor	Toshiba
Operating voltage		5 VDC to 13.8 VDC Refer to FIG.1	7 VDC to 13.8 VDC Refer to FIG.1
Rated electrical current		No change	
Speed		No change	
Operating temp.		No change	
Sound pressure level		No change	
Control terminal		Non-applicable	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		Non-applicable	
Sensor spec.		No change	



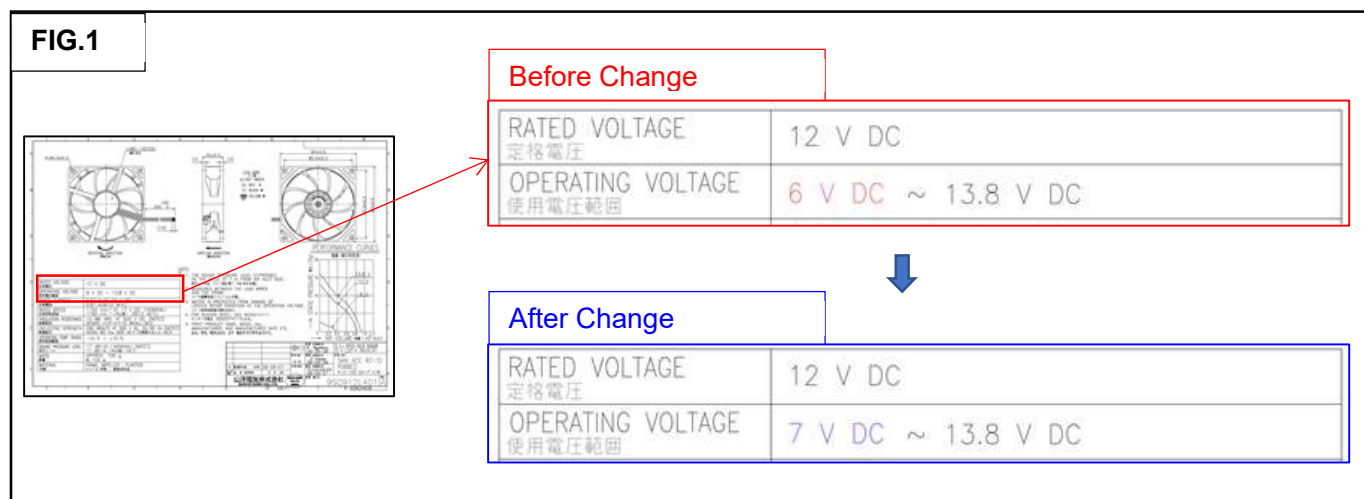
No. A0053142 - Attached Sheet 5

[MODEL]

9S0912L401, 9S0912L4011, 9S0912L402, 9S0912L4021, 9S0912L403, 9S0912L4031, 9S0912L404,
 9S0912L4D01, 9S0912L4D011,
 1022-108291

[Contents of change]

		Before Change	After Change
Motor drive IC	Pulse sensor Or sensor-less type	LA6584JA	BD6962
	Lock sensor type		BD6964
	Manufacture	On-semiconductor	Rohm
Operating voltage		6 VDC to 13.8 VDC Refer to FIG.1	7 VDC to 13.8 VDC Refer to FIG.1
Electrical current		No change	
Speed		No change	
Operating temp.		No change	
Sound pressure level		No change	
Control terminal		Non-applicable	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		Non-applicable	
Sensor spec.		No change	



No. A0053142 - Attached Sheet 6

[MODEL]

9S0912B4031

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LA6584JA	BD6962
	Manufacture	On-semiconductor	Rohm
Operating voltage		No change	
Electrical current		No change	
Speed		No change	
Operating temp.		No change	
Sound pressure level		No change	
Control terminal		Non-applicable	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		Non-applicable	
Sensor spec.		No change	

No. A0053142 - Attached Sheet 7

[MODEL]

9S0912P4F01, 9S0912P4F011, 9S0912P4F041, 9S0912P4F05, 9S0912P4F051, 9S0912P4F06,
9S0912P4F07, 9S0912P4F08, 9S0912P4F09, 9S0912P4F10, 9S0912P4F11

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11970FV	TC78B002FNG
	Manufacture	On-semiconductor	Toshiba
Operating voltage		No change	
Rated electrical current		No change	
Speed		No change	
Operating temp.		No change	
Sound pressure level		No change	
Control terminal		No change	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		No change	
Sensor spec.		No change	

No. A0053142 - Attached Sheet 8

[MODEL]

9S0912P4M01, 9S0912P4M011, 9S0912P4M031, 9S0912P4M04, 9S0912P4M05, 9S0912P4M06,
9S0912P4M09, 9S0912P4M10

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11970FV	TC78B002FNG
	Manufacture	On-semiconductor	Toshiba
Operating voltage		No change	
Rated electrical current		No change	
Speed		No change	
Operating temp.		No change	
Sound pressure level		No change	
Control terminal		No change	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		No change	
Sensor spec.		No change	

No. A0053142 - Attached Sheet 9

[MODEL]

9S0924F401, 9S0924F4011, 9S0924F402, 9S0924F4021, 9S0924F4D01, 9S0924F4D03, 9S0924F4D04,
 9S0924M401, 9S0924M4011, 9S0924M402, 9S0924M4021, 9S0924M403, 9S0924M404, 9S0924M4D01,
 9S0924L401, 9S0924L4011, 9S0924L402, 9S0924L4021, 9S0924L4D01, 9S0924L4D03, 9S0924L4D04,
 9S0924L4D05,
 9S0924F4011-A01

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LA6588	NJW4320
	Manufacture	On-semiconductor	Nisshinbo-Micro-Devices
Operating voltage		No change	
Electrical current		No change	
Speed		No change	
Operating temp.		No change	
Sound pressure level		No change	
Control terminal		Non-applicable	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		Non-applicable	
Sensor spec.		No change	