

# Design Change Notification

December 29<sup>th</sup>, 2021

To: Sanyo Denki America Cooling Distributors

Product: BLDC FAN MOTOR

Model: San Ace 92 (9GA) 92mm sq. x 38mm thick

(Please refer Attached Sheet for a complete part number list.)

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

Approved	Checked	Designed
渡辺 '21.12.28 道德	中村 '21.12.28 俊之	高桑 '21.12.28 宗仙

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 Rohm.	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 December, 2022 production (Estimated). Please note that the changeover schedule to new IC may change according to the number of products in the inventory.

**No. A0052671 - Attached Sheet 1**

[MODEL LIST]

San Ace 92 (9GA) – 92mm x 38mm thick

MODEL	Change contents
9GA0912H101 9GA0912H1011 9GA0912H102 9GA0912H1021 9GA0912H1D01	Attached Sheet 2
9GA0912P1H03 9GA0912P1H031 9GA0912P1H04 9GA0912P1H05 9GA0912P1H06 9GA0912P1H07 9GA0912P1H08 9GA0912P1H081 9GA0912P1H09 9GA0912P1H10 9GA0912P1H12 9GA0912P1H13 9GA0912P1HD01	Attached Sheet 3
9GA0912P1H041	Attached Sheet 4
9GA0912P1H051 9GA0912P1H061 9GA0912P1H11	Attached Sheet 5

MODEL	Change contents
9GA0948H101 9GA0948H102 9GA0948H103	Attached Sheet 6
9GA0948P1H03 9GA0948P1H031 9GA0948P1H041 9GA0948P1H051 9GA0948P1H06 9GA0948P1H08 9GA0948P1HE01	Attached Sheet 7

**No. A0052671 - Attached Sheet 2 - 1/1**

[MODEL]

9GA0912H101, 9GA0912H1011, 9GA0912H102, 9GA0912H1021, 9GA0912H1D01

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11867 By On-semiconductor	BD69730 or BD6973 By 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. A0052671 - Attached Sheet 3 - 1/1**

[MODEL]

9GA0912P1H03, 9GA0912P1H031, 9GA0912P1H04, 9GA0912P1H05, 9GA0912P1H06, 9GA0912P1H07,  
 9GA0912P1H08, 9GA0912P1H081, 9GA0912P1H09, 9GA0912P1H10, 9GA0912P1H12, 9GA0912P1H13,  
 9GA0912P1HD01

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11867 By On-semiconductor	BD69730 or BD6973 By Rohm
Operating voltage	No change	
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	

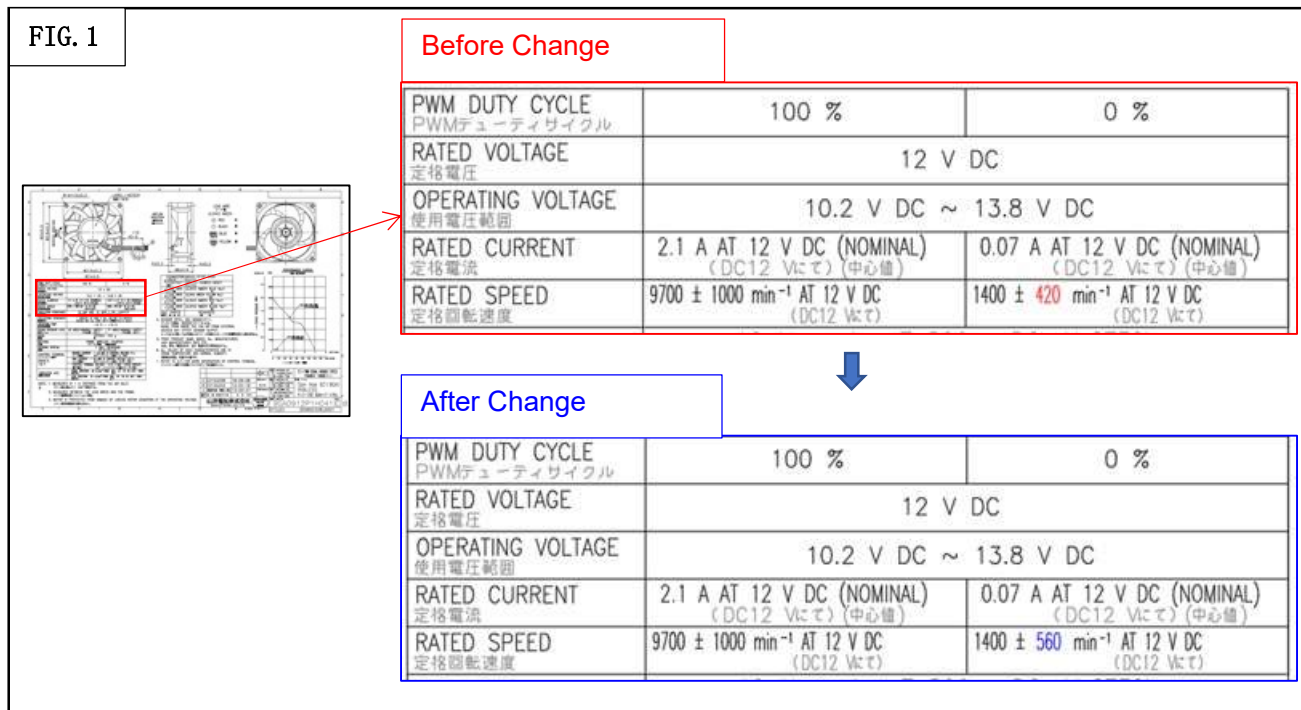
**No. A0052671 - Attached Sheet 4 - 1/1**

[MODEL]

9GA0912P1H041

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11867 By On-semiconductor	BD69730 or BD6973 By Rohm
Operating voltage	No change	
Electrical current	0.07[A]NOM. @ PWM 0% 0.08[A]MAX. @ PWM 0%	0.07[A]NOM. @ PWM 0% 0.1[A]MAX. @ PWM 0%
Speed	1400 +/- 420 [min <sup>-1</sup> ] @ PWM 0% Refer to FIG.1	1400 +/- 560 [min <sup>-1</sup> ] @ PWM 0% Refer to FIG.1
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. A0052671 - Attached Sheet 5 - 1/2**

[MODEL]

9GA0912P1H051, 9GA0912P1H061, 9GA0912P1H11

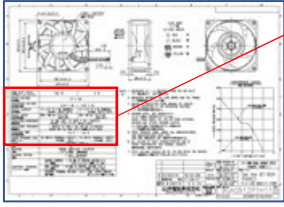
[Contents of change]

	Before Change	After Change
Motor drive IC	LB11867 By On-semiconductor	BD69730 or BD6973 By Rohm
Operating voltage	No change	
Electrical current	0.1[A]NOM. @ PWM 0% Refer to Fig.1 0.11[A]MAX. @ PWM 0%	0.07[A]NOM. @ PWM 0% Refer to Fig.1 0.1[A]MAX. @ PWM 0%
Speed	1100 +/- 500 [min <sup>-1</sup> ] @ PWM0% Refer to Fig.1	1400 +/- 560 [min <sup>-1</sup> ] @ PWM0% Refer to Fig.1
Operating temp.	No change	
Sound pressure level	15[dBA(A)] @ PWM 0% Refer to Fig.1	21[dBA(A)] @ PWM 0% Refer to Fig.1
Control terminal	No change	
Air flow – static pressure character	Refer to Fig.2	
PWM duty cycle - Speed characteristic	Refer to Fig.3	
Sensor spec.	No change	

**FIG. 1**

Before Change

After Change

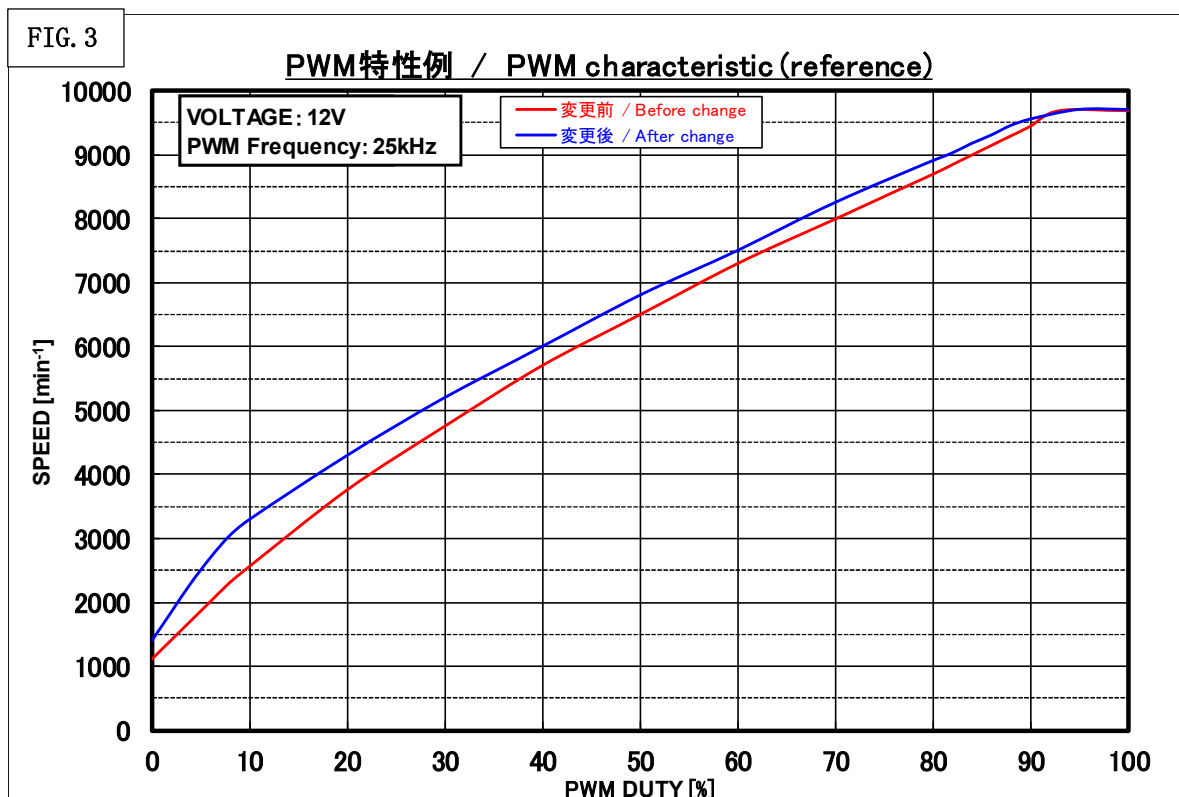
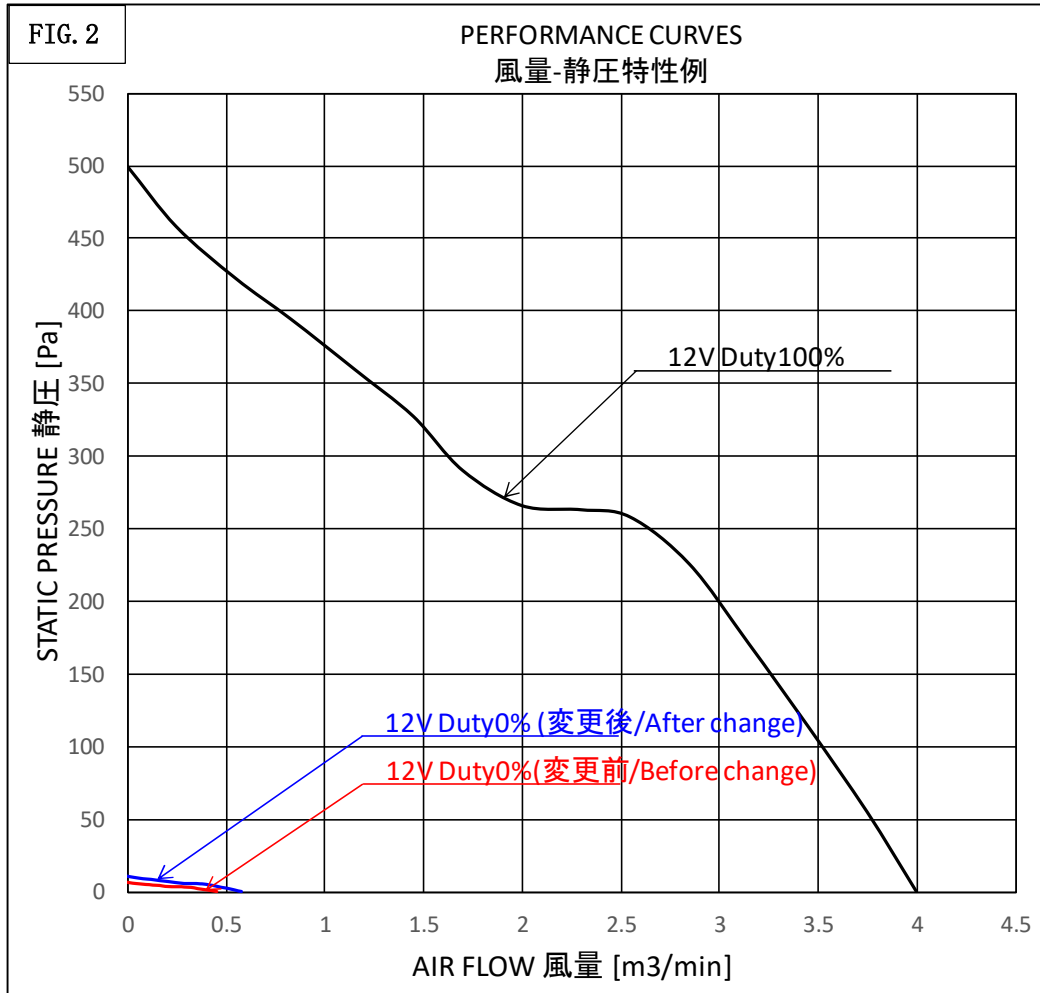


PWM DUTY CYCLE PWMフューネンサイクル	100 %	0 %
RATED VOLTAGE 定格電圧	12 V DC	
OPERATING VOLTAGE 使用電圧範囲	10.2 V DC ~ 13.8 V DC	
RATED CURRENT 定格電流	2.1 A AT 12 V DC (NOMINAL) (DC12 Vにて) (中心値)	0.1 A AT 12 V DC (NOMINAL) (DC12 Vにて) (中心値)
RATED SPEED 定格回転速度	9700 ± 1000 min <sup>-1</sup> AT 12 V DC (DC12 Vにて)	1100 ± 500 min <sup>-1</sup> AT 12 V DC (DC12 Vにて)
INSULATION RESISTANCE 絶縁抵抗	10 MΩ MIN. AT 500 V DC (NOTE2) DC500 V×カーにて10 MΩ以上(注2)	
DIELECTRIC STRENGTH 絶縁耐圧	1 MINUTE AT 500 V AC, 50/60 Hz (NOTE2) AC50/60 Hz, 500 Vにて1分間耐えること(注2)	
OPERATING TEMP. 使用温度範囲	-10 °C ~ +70 °C	
SOUND PRESSURE LEVEL 音圧レベル	63 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	15 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)

PWM DUTY CYCLE PWMフューネンサイクル	100 %	0 %
RATED VOLTAGE 定格電圧	12 V DC	
OPERATING VOLTAGE 使用電圧範囲	10.2 V DC ~ 13.8 V DC	
RATED CURRENT 定格電流	2.1 A AT 12 V DC (NOMINAL) (DC12 Vにて) (中心値)	0.07 A AT 12 V DC (NOMINAL) (DC12 Vにて) (中心値)
RATED SPEED 定格回転速度	9700 ± 1000 min <sup>-1</sup> AT 12 V DC (DC12 Vにて)	1400 ± 560 min <sup>-1</sup> AT 12 V DC (DC12 Vにて)
INSULATION RESISTANCE 絶縁抵抗	10 MΩ MIN. AT 500 V DC (NOTE2) DC500 V×カーにて10 MΩ以上(注2)	
DIELECTRIC STRENGTH 絶縁耐圧	1 MINUTE AT 500 V AC, 50/60 Hz (NOTE2) AC50/60 Hz, 500 Vにて1分間耐えること(注2)	
OPERATING TEMP. 使用温度範囲	-10 °C ~ +70 °C	
SOUND PRESSURE LEVEL 音圧レベル	63 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	21 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)

No. A0052671 - Attached Sheet 5 - 2/2



**No. A0052671 - Attached Sheet 6 - 1/1**

[MODEL]

9GA0948H101, 9GA0948H102, 9GA0948H103

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11867 By On-semiconductor	BD69730 or BD6973 By 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. A0052671 - Attached Sheet 7 - 1/1**

[MODEL]

9GA0948P1H03, 9GA0948P1H031, 9GA0948P1H041, 9GA0948P1H051, 9GA0948P1H06, 9GA0948P1H08,  
9GA0948P1HE01

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11867 By On-semiconductor	BD69730 or BD6973 By Rohm
Operating voltage	No change	
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	