Design Change Notification

April 12th, 2022

To: Sanyo Denki America Cooling Distributors

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

Approved	Checked	Designed
渡辺 '22.04.05 道徳	中村 '22.04.05 俊之	高桑 '22.04.05 宗仙

Product: BLDC FAN MOTOR

Model: San Ace 60W (9WL)　60mm sq. x 25mm thick
(Please refer Attached Sheet for a complete part number list.)

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. A0052889 - Attached Sheet 1 – 1/1

[MODEL LIST]

San Ace 60W (9WL) – 60mm x 25mm thick

MODEL	Change contents
9WL0612J4002 9WL0612J4D001	Attached Sheet 2
9WL0612H4002	Attached Sheet 3
9WL0612P4J001 9WL0612P4J004	Attached Sheet 4
9WL0612P4H001	Attached Sheet 5
9WL0624J4D001 9WL0624H4001 9WL0624H4D003	Attached Sheet 6
9WL0624P4J001 9WL0624P4JD001 9WL0624P4H001	Attached Sheet 7

No. A0052889 - Attached Sheet 2 - 1/1

[MODEL]

9WL0612J4002,

9WL0612J4D001

[Contents of change]

		Before Change	After Change
Motor drive IC	Pulse sensor Or sensor-less type	LB11660FV	BD69730 or BD6973
	Lock sensor type	LB11660RV	BD69740 or BD6974
	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. A0052889 - Attached Sheet 3 - 1/1

[MODEL]

9WL0612H4002

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11970FV	TC78B002
	Manufacture	On-semiconductor	Toshiba
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. A0052889 - Attached Sheet 4 - 1/2

[MODEL]

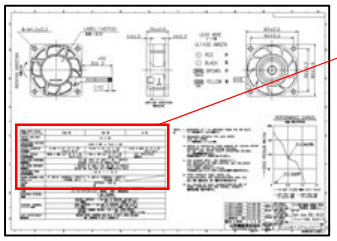
9WL0612P4J001, 9WL0612P4J004

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11660FV	BD69730 or BD6973
	Manufacture	On-semiconductor	Rohm
Operating voltage		No change	
Electrical current		0.03[A] @ PWM 20% Refer to Fig.1	0.04[A] @ PWM 25% Refer to Fig.1
Speed		1150 +/- 345 [min^{-1}] @ PWM20% Refer to Fig.1	2100 +/- 630 [min^{-1}] @ PWM25% Refer to Fig.1
Operating temp.		No change	
Sound pressure level		14[dBA(A)] @ PWM 20% Refer to Fig.1	17[dBA(A)] @ PWM 25% 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



PWM DUTY CYCLE PWMデューティサイクル	100 %	20 %	0 %
RATED VOLTAGE 定格電圧	12 V DC		
OPERATING VOLTAGE 使用電圧範囲	10.8 V DC ~ 13.2 V DC		
RATED CURRENT 定格電流	0.39 A AT 12 V DC (DC12 Vにて)	0.03 A AT 12 V DC (DC12 Vにて)	0.03 A MAX AT 12 V DC (DC12 Vにて)
RATED SPEED 定格回転速度	8650 ± 865 min^{-1} AT 12 V DC (DC12 Vにて)	1150 ± 345 min^{-1} AT 12 V DC (DC12 Vにて)	NO ROTATION 回転停止
INSULATION RESISTANCE 絶縁抵抗	10 MΩ MIN. AT 500 V DC (NOTE2) DC500 Vメガーにて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	- 20 ℃ ~ + 70 ℃		
SOUND PRESSURE LEVEL 音圧レベル	47 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	14 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	

After change

PWM DUTY CYCLE PWMデューティサイクル	100 %	25 %	0 %
RATED VOLTAGE 定格電圧	12 V DC		
OPERATING VOLTAGE 使用電圧範囲	10.8 V DC ~ 13.2 V DC		
RATED CURRENT 定格電流	0.39 A AT 12 V DC (DC12 Vにて)	0.04 A AT 12 V DC (DC12 Vにて)	0.03 A MAX AT 12 V DC (DC12 Vにて)
RATED SPEED 定格回転速度	8650 ± 865 min^{-1} AT 12 V DC (DC12 Vにて)	2100 ± 630 min^{-1} AT 12 V DC (DC12 Vにて)	NO ROTATION 回転停止
INSULATION RESISTANCE 絶縁抵抗	10 MΩ MIN. AT 500 V DC (NOTE2) DC500 Vメガーにて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	- 20 ℃ ~ + 70 ℃		
SOUND PRESSURE LEVEL 音圧レベル	47 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	17 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	

No. A0052889 - Attached Sheet 4 - 2/2

FIG.2

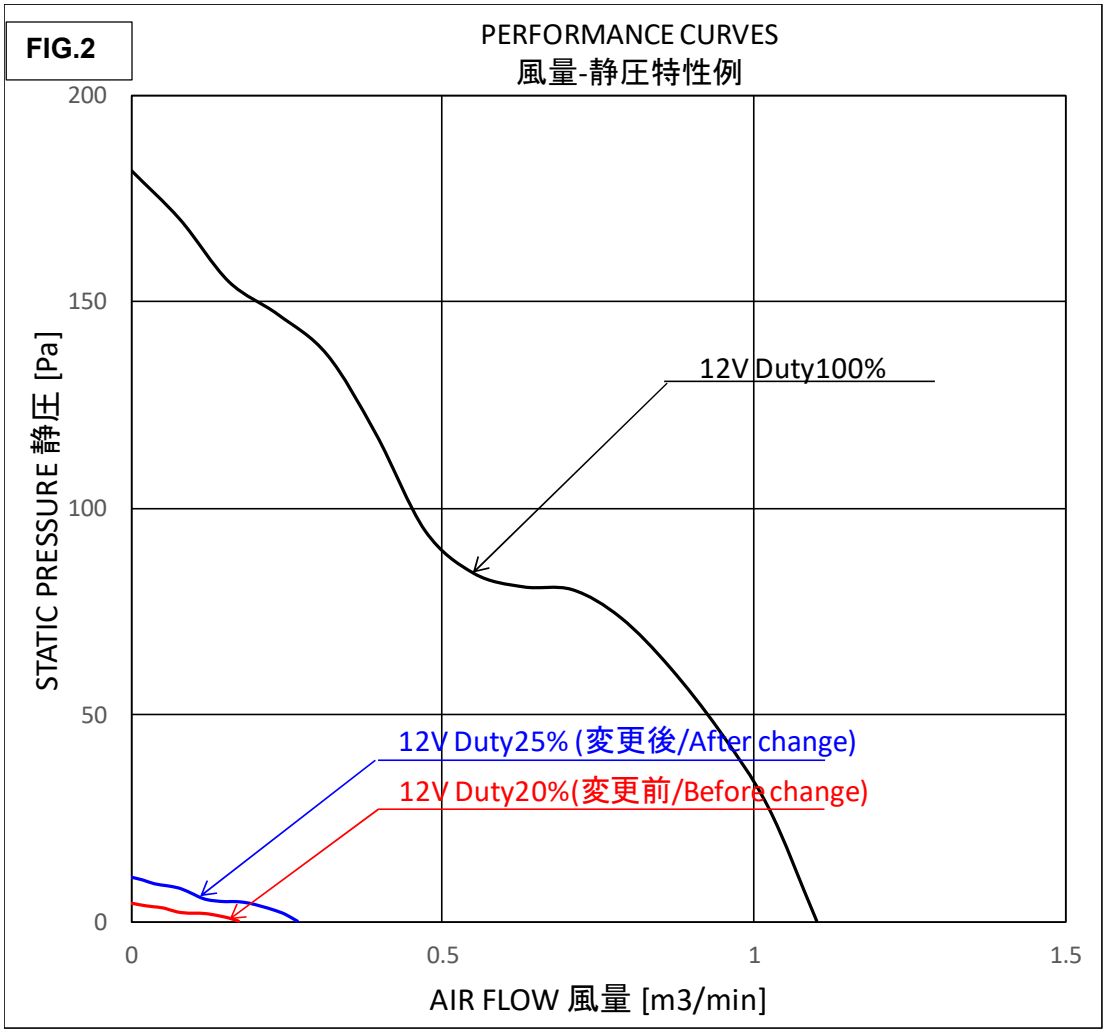
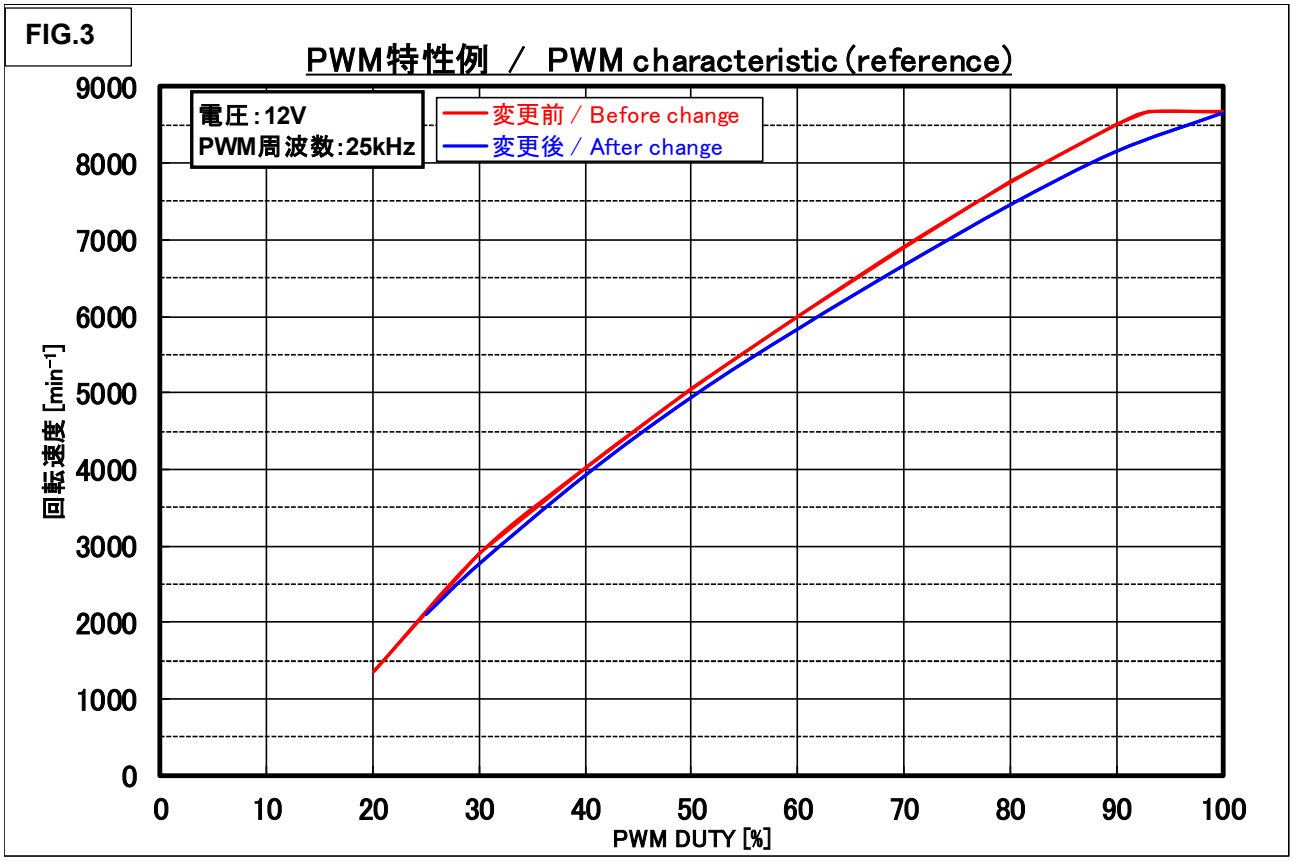


FIG.3



No. A0052889 - Attached Sheet 5 - 1/2

[MODEL]

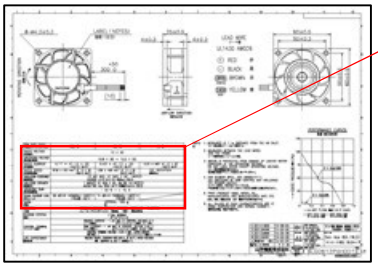
9WL0612P4H001

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11970FV	TC78B002
	Manufacture	On-semiconductor	Toshiba
Operating voltage		No change	
Electrical current		0.03[A] @ PWM 20% Refer to Fig.1	0.03[A] @ PWM 25% Refer to Fig.1
Speed		1350 +/- 405 [min^{-1}] @ PWM20% Refer to Fig.1	1350 +/- 405 [min^{-1}] @ PWM25% Refer to Fig.1
Operating temp.		No change	
Sound pressure level		14[dBA(A)] @ PWM 20% Refer to Fig.1	14[dBA(A)] @ PWM 25% Refer to Fig.1
Control terminal		No change	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		Refer to Fig.2	
Sensor spec.		No change	

FIG.1

Before change



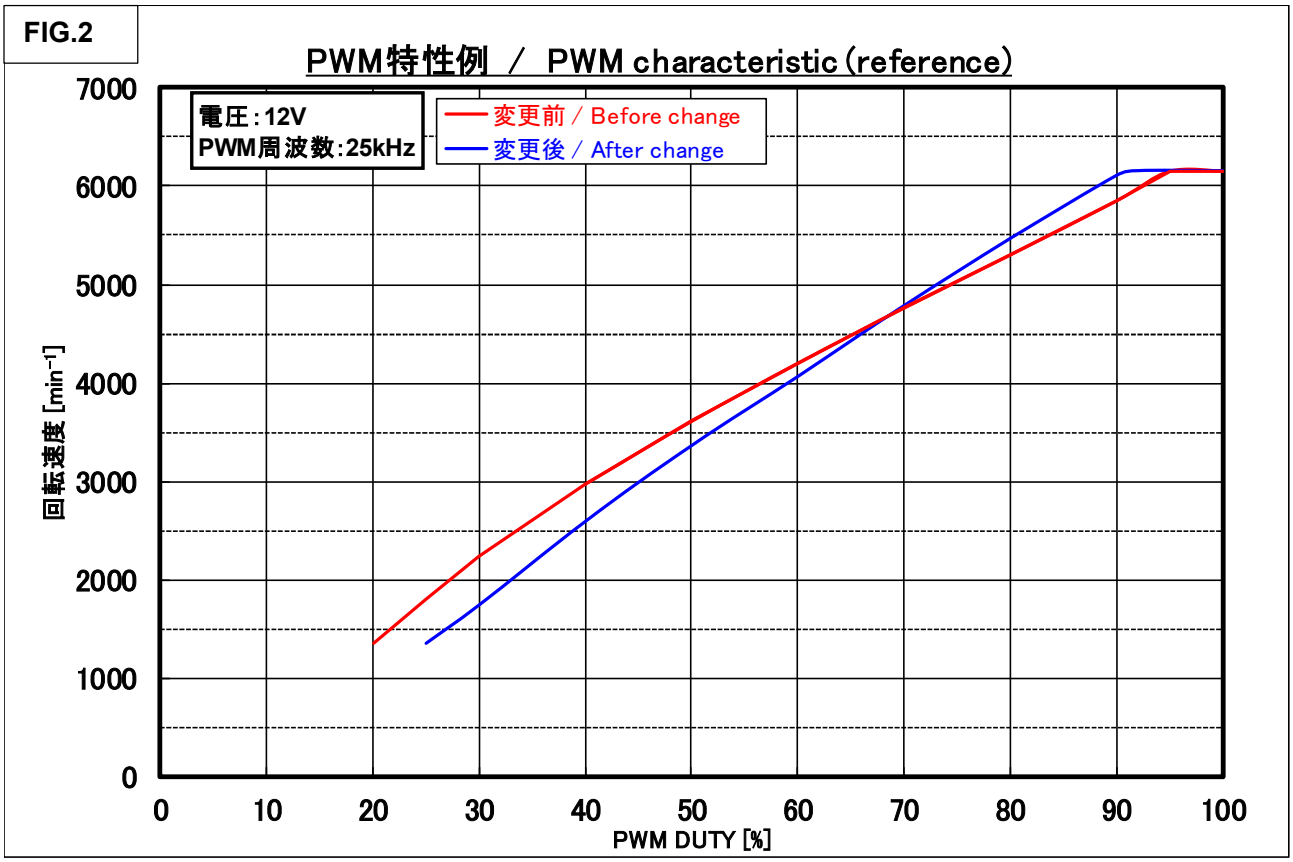
PWM DUTY CYCLE	100 %	20 %	0 %
RATED VOLTAGE	12 V DC		
OPERATING VOLTAGE	10.8 V DC ~ 13.2 V DC		
RATED CURRENT	0.17 A AT 12 V DC (DC12 Vにて)	0.03 A AT 12 V DC (DC12 Vにて)	0.03 A MAX AT 12 V DC (DC12 Vにて)
RATED SPEED	6150 ± 615 min^{-1} AT 12 V DC (DC12 Vにて)	1350 ± 405 min^{-1} AT 12 V DC (DC12 Vにて)	NO ROTATION 回転停止
INSULATION RESISTANCE	10 MΩ MIN. AT 500 V DC (NOTE2) DC500 Vメガーにて10 MΩ以上(注2)		
DIELECTRIC STRENGTH	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.	- 20 ℃ ~ + 70 ℃		
SOUND PRESSURE LEVEL	35 dB(A) (NOMINAL) (NOTE1) (中心値)(注1)	14 dB(A) (NOMINAL) (NOTE1) (中心値)(注1)	

After change

PWM DUTY CYCLE	100 %	25 %	0 %
RATED VOLTAGE	12 V DC		
OPERATING VOLTAGE	10.8 V DC ~ 13.2 V DC		
RATED CURRENT	0.17 A AT 12 V DC (DC12 Vにて)	0.03 A AT 12 V DC (DC12 Vにて)	0.03 A MAX AT 12 V DC (DC12 Vにて)
RATED SPEED	6150 ± 615 min^{-1} AT 12 V DC (DC12 Vにて)	1350 ± 405 min^{-1} AT 12 V DC (DC12 Vにて)	NO ROTATION 回転停止
INSULATION RESISTANCE	10 MΩ MIN. AT 500 V DC (NOTE2) DC500 Vメガーにて10 MΩ以上(注2)		
DIELECTRIC STRENGTH	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.	- 20 ℃ ~ + 70 ℃		
SOUND PRESSURE LEVEL	35 dB(A) (NOMINAL) (NOTE1) (中心値)(注1)	14 dB(A) (NOMINAL) (NOTE1) (中心値)(注1)	

No. A0052889 - Attached Sheet 5 - 2/2

FIG.2



No. A0052889 - Attached Sheet 6 - 1/1

[MODEL]

9WL0624J4D001,

9WL0624H4001, 9WL0624H4D003

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LV8860	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		No change	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		No change	
Sensor spec.		No change	

No. A0052889 - Attached Sheet 7 - 1/1

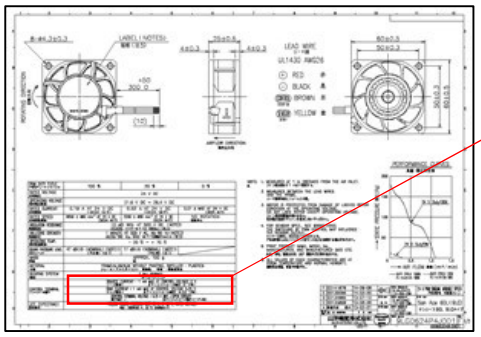
[MODEL]

9WL0624P4J001, 9WL0624P4JD001,

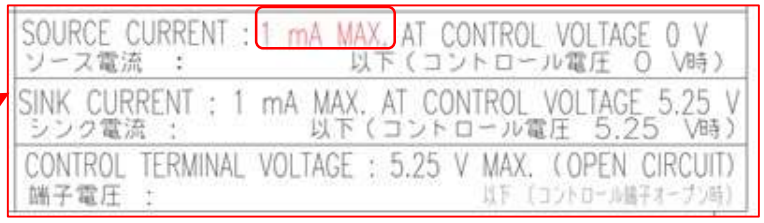
9WL0624P4H001

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LV8860	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		Source current: 1 mA MAX. Refer to below drawing	Source current: 2 mA MAX. Refer to below drawing
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		No change	
Sensor spec.		No change	



Before Change



After Change

