Design Change Notification

July 18th, 2022

To: Sanyo Denki America Cooling Distributors

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

Approved	Checked	Designed
渡辺 '22.06.30 道徳	中村 '22.06.30 俊之	高桑 '22.06.30 宗仙

Product: BLDC FAN MOTOR

Model: San Ace 92W (9WL)　92mm 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. A0053246 - Attached Sheet 1 – 1/1

[MODEL LIST]

San Ace 92W (9WL) – 92mm x 25mm thick

MODEL	Change contents
9WL0912J4002 9WL0912G4003 9WL0912S4003	Attached Sheet 2
9WL0912H4001 9WL0912H4002 9WL0912M4001 9WL0912M4002	Attached Sheet 3
9WL0912P4J001 9WL0912P4J003 9WL0912P4J004 9WL0912P4J005 9WL0912P4G001 9WL0912P4S001	Attached Sheet 4
9WL0912P4H001	Attached Sheet 5
9WL0924J4D001 9WL0924S4D003 9WL0924H4001 9WL0924H4002 9WL0924H4D001 9WL0924F4001 9WL0924F4002 9WL0924M4001 9WL0924M4002 9WL0924M4D001	Attached Sheet 6
9WL0924P4J001 9WL0924P4J005 9WL0924P4J006 9WL0924P4S001 9WL0924P4H001	Attached Sheet 7

No. A0053246 - Attached Sheet 2 - 1/1

[MODEL]

9WL0912J4002,

9WL0912G4003,

9WL0912S4003

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11660	BD69730 or BD6973
	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	
Life Expectancy		No change	

No. A0053246 - Attached Sheet 3 - 1/1

[MODEL]

9WL0912H4001, 9WL0912H4002,

9WL0912M4001, 9WL0912M4002

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11970	TC78B002FNG
	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	
Life Expectancy		No change	

No. A0053246 - Attached Sheet 4 - 1/1

[MODEL]

9WL0912P4J001, 9WL0912P4J003, 9WL0912P4J004, 9WL0912P4J005,
9WL0912P4G001,
9WL0912P4S001

[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11660	BD69730 or BD6973
	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		No change	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		No change	
Sensor spec.		No change	
Life Expectancy		No change	

No. A0053246 - Attached Sheet 5 - 1/2

[MODEL]

9WL0912P4H001

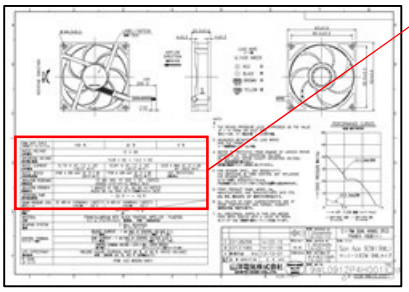
[Contents of change]

		Before Change	After Change
Motor drive IC	Type name	LB11970	TC78B002FNG
	Manufacture	On-semiconductor	Toshiba
Operating voltage		No change	
Electrical current		0.04[A] @ PWM 30% Refer to Fig.1	0.04[A] @ PWM 35% Refer to Fig.1
Speed		1100 +/- 330 [min^{-1}] @ PWM30% Refer to Fig.1	1100 +/- 330 [min^{-1}] @ PWM35% Refer to Fig.1
Operating temp.		No change	
Sound pressure level		9[dBA(A)] @ PWM 30% Refer to Fig.1	9[dBA(A)] @ PWM 35% 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	
Life Expectancy		No change	

No. A0053246 - Attached Sheet 5 - 2/2

FIG.1

Before Change

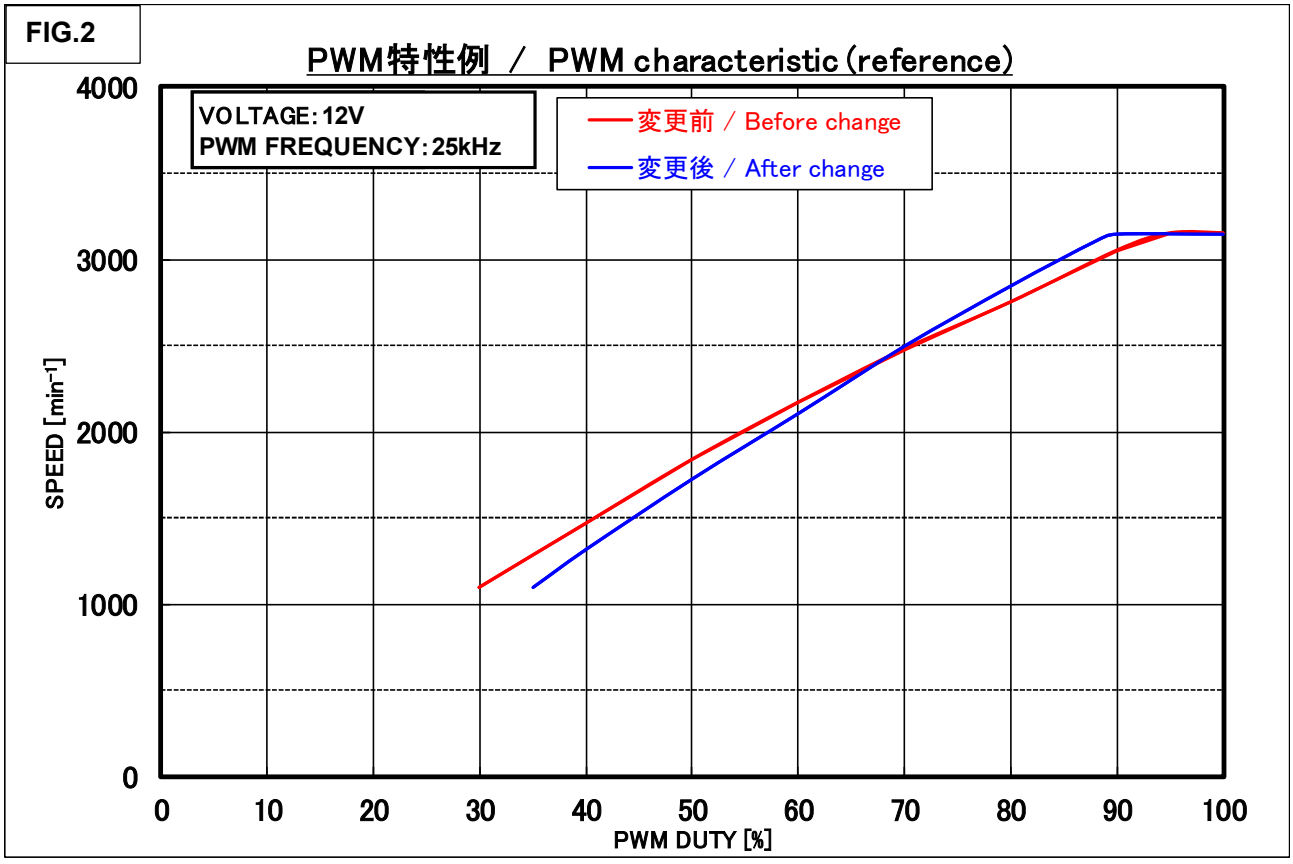


PWM DUTY CYCLE PWMデューティサイクル	100 %	30 %	0 %
RATED VOLTAGE 定格電圧	12 V DC		
OPERATING VOLTAGE 使用電圧範囲	10.8 V DC ~ 13.2 V DC		
RATED CURRENT 定格電流	0.15 A AT 12 V DC (DC12 Vにて)	0.04 A AT 12 V DC (DC12 Vにて)	0.03 A MAX AT 12 V DC 以下 (DC12 Vにて)
RATED SPEED 定格回転速度	3150 ± 320 min⁻¹ AT 12 V DC (DC12 Vにて)	1100 ± 330 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	32 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	9 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 %	35 %	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	0.15 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 以下 (DC12 Vにて)
RATED SPEED 定格回転速度	3150 ± 320 min⁻¹ AT 12 V DC (DC12 Vにて)	1100 ± 330 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	32 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	9 dB(A) (NOMINAL) (NOTE1) (中心値) (注1)	

FIG.2



No. A0053246 - Attached Sheet 6 - 1/1

[MODEL]

9WL0924J4D001,

9WL0924S4D003,

9WL0924H4001, 9WL0924H4002, 9WL0924H4D001,

9WL0924F4001, 9WL0924F4002,

9WL0924M4001, 9WL0924M4002, 9WL0924M4D001

[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		Non-applicable	
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		Non-applicable	
Sensor spec.		No change	
Life Expectancy		No change	

No. A0053246 - Attached Sheet 7 - 1/1

[MODEL]

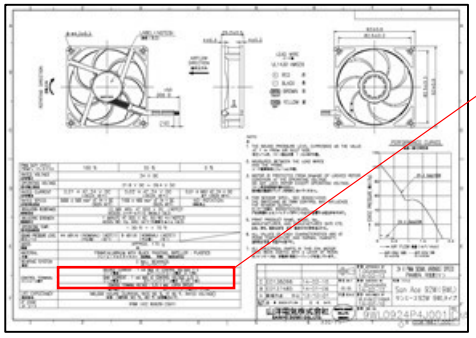
9WL0924P4J001, 9WL0924P4J005, 9WL0924P4J006,

9WL0924P4S001, 9WL0924P4H001

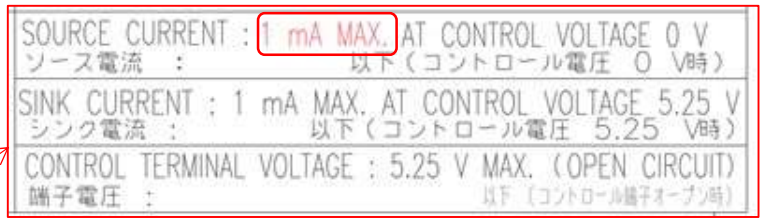
[Contents of change]

		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 FIG.1	Source current : 2 mA MAX. Refer to FIG.1
Air flow – static pressure character		No change	
PWM duty cycle - Speed characteristic		No change	
Sensor spec.		No change	
Life Expectancy		No change	

FIG.1



Before Change



After Change