

Design Change Notification

December 29th, 2021

To: Sanyo Denki America Cooling Distributors

Product: BLDC FAN MOTOR _____

Model: San Ace 80 (9GA) 80mm 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 New-Japan-Radio.	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. A0052618 - Attached Sheet 1 – 1/3

[MODEL LIST]

San Ace 80 (9GA) – 80mm x 25mm thick

MODEL	Change contents
9GA0812J4001	Attached Sheet 2
9GA0812J40011	
9GA0812J4002	
9GA0812J40021	
9GA0812J40031	
9GA0812J4D001	
9GA0812J4D003	
9GA0812G4001	Attached Sheet 3
9GA0812G40011	
9GA0812G4002	
9GA0812G40021	
9GA0812G4003	
9GA0812G4005	
9GA0812G4006	
9GA0812G4007	
9GA0812G4008	
9GA0812G4D001	
9GA0812G4D003	
9GA0812G4D0031	
9GA0812H4001	Attached Sheet 4
9GA0812H40011	
9GA0812H4002	
9GA0812H40021	
9GA0812H4003	
9GA0812H40031	
9GA0812H4004	
9GA0812H40041	
9GA0812H4005	
9GA0812H4006	

MODEL	Change contents
9GA0812P4J001	Attached Sheet 5
9GA0812P4J0011	
9GA0812P4J003	
9GA0812P4J0041	
9GA0812P4J0061	
9GA0812P4J008	
9GA0812P4J0081	
9GA0812P4J009	
9GA0812P4J0091	
9GA0812P4J010	
9GA0812P4J011	
9GA0812P4J0111	
9GA0812P4J013	
9GA0812P4J015	
9GA0812P4J016	
9GA0812P4J017	
9GA0812P4G001	
9GA0812P4G0011	
9GA0812P4G0031	
9GA0812P4G004	
9GA0812P4G0041	
9GA0812P4G005	
9GA0812P4G0051	
9GA0812P4G006	
9GA0812P4G0061	
9GA0812P4G007	
9GA0812P4G008	
9GA0812P4G0091	
9GA0812P4G010	
9GA0812P4G011	
9GA0812P4G013	
9GA0812P4GD001	
9GA0812P4GD004	

No. A0052618 - Attached Sheet 1 – 2/3

[MODEL LIST]

San Ace 80 (9GA) – 80mm x 25mm thick

MODEL	Change contents
9GA0812P4H001	Attached Sheet 7
9GA0812P4H0011	
9GA0812P4H003	
9GA0812P4H0031	
9GA0812P4H004	
9GA0812P4H0051	
9GA0812P4H006	
9GA0812P4H0061	
9GA0812P4H007	
9GA0812P4H0071	
9GA0812P4H008	
9GA0812P4H009	
9GA0812P4H010	
9GA0812P4H011	
9GA0812P4H013	
9GA0812P4H014	
9GA0812P4H015	
9GA0824J4001	Attached Sheet 8
9GA0824J40011	
9GA0824J4002	
9GA0824J40021	
9GA0824J40031	
9GA0824J4004	
9GA0824J4005	
9GA0824J4006	
9GA0824J4007	
9GA0824J4D001	
9GA0824J4D0011	
9GA0824J4D003	
9GA0824J4D005	
9GA0824J4D006	
9GA0824J4D009	

MODEL	Change contents
9GA0824G4001	Attached Sheet 9
9GA0824G40011	
9GA0824G4002	
9GA0824G40021	
9GA0824G4003	
9GA0824G4004	
9GA0824G4005	
9GA0824G4006	
9GA0824G4008	
9GA0824G4D001	
9GA0824G4D003	
9GA0824G4D004	
9GA0824H4001	
9GA0824H40011	
9GA0824H4002	
9GA0824H40021	
9GA0824H4003	
9GA0824H4004	
9GA0824H4005	
9GA0824H4D001	

No. A0052618 - Attached Sheet 1 – 3/3

[MODEL LIST]

San Ace 80 (9GA) – 80mm x 25mm thick

MODEL	Change contents
9GA0824P4J001	
9GA0824P4J0011	
9GA0824P4J004	
9GA0824P4J0041	
9GA0824P4J005	
9GA0824P4J006	
9GA0824P4J007	
9GA0824P4J008	
9GA0824P4J009	Attached Sheet 10
9GA0824P4J011	
9GA0824P4J013	
9GA0824P4J014	
9GA0824P4J015	
9GA0824P4JD001	
9GA0824P4JD0011	
9GA0824P4JD004	
9GA0824P4JD005	

MODEL	Change contents
9GA0824P4G001	
9GA0824P4G0011	
9GA0824P4G002	
9GA0824P4G0031	
9GA0824P4G004	
9GA0824P4G005	
9GA0824P4G006	
9GA0824P4G007	
9GA0824P4H001	Attached Sheet 11
9GA0824P4H0011	
9GA0824P4H003	
9GA0824P4H006	
9GA0824P4H009	
9GA0824P4HD001	

No. A0052618 - Attached Sheet 2 - 1/1

[MODEL]

9GA0812J4001, 9GA0812J40011, 9GA0812J4002, 9GA0812J40021, 9GA0812J40031, 9GA0812J4D001,
9GA0812J4D003

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11967V 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. A0052592 - Attached Sheet 3 - 1/1

[MODEL]

9GA0812G4001, 9GA0812G40011, 9GA0812G4002, 9GA0812G40021, 9GA0812G4003, 9GA0812G4005,
 9GA0812G4006, 9GA0812G4007, 9GA0812G4008, 9GA0812G4D001, 9GA0812G4D003, 9GA0812G4D0031

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11660FV or LB11660RV 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. A0052618 - Attached Sheet 4 - 1/1

[MODEL]

9GA0812H4001, 9GA0812H40011, 9GA0812H4002, 9GA0812H40021, 9GA0812H4003, 9GA0812H40031,
 9GA0812H4004, 9GA0812H40041, 9GA0812H4005, 9GA0812H4006

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11970FV By On-semiconductor	TC78B002 By 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. A0052618 - Attached Sheet 5 - 1/1

[MODEL]

9GA0812P4J001, 9GA0812P4J0011, 9GA0812P4J003, 9GA0812P4J0041, 9GA0812P4J0061,
 9GA0812P4J008, 9GA0812P4J0081, 9GA0812P4J009, 9GA0812P4J0091, 9GA0812P4J010,
 9GA0812P4J011, 9GA0812P4J0111, 9GA0812P4J013, 9GA0812P4J015, 9GA0812P4J016, 9GA0812P4J017

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11967V 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. A0052618 - Attached Sheet 6 - 1/1

[MODEL]

9GA0812P4G001, 9GA0812P4G0011, 9GA0812P4G0031, 9GA0812P4G004, 9GA0812P4G0041,
 9GA0812P4G005, 9GA0812P4G0051, 9GA0812P4G006, 9GA0812P4G0061, 9GA0812P4G007,
 9GA0812P4G008, 9GA0812P4G0091, 9GA0812P4G010, 9GA0812P4G011, 9GA0812P4G013,
 9GA0812P4GD001, 9GA0812P4GD004

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11660FV or LB11660RV 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	

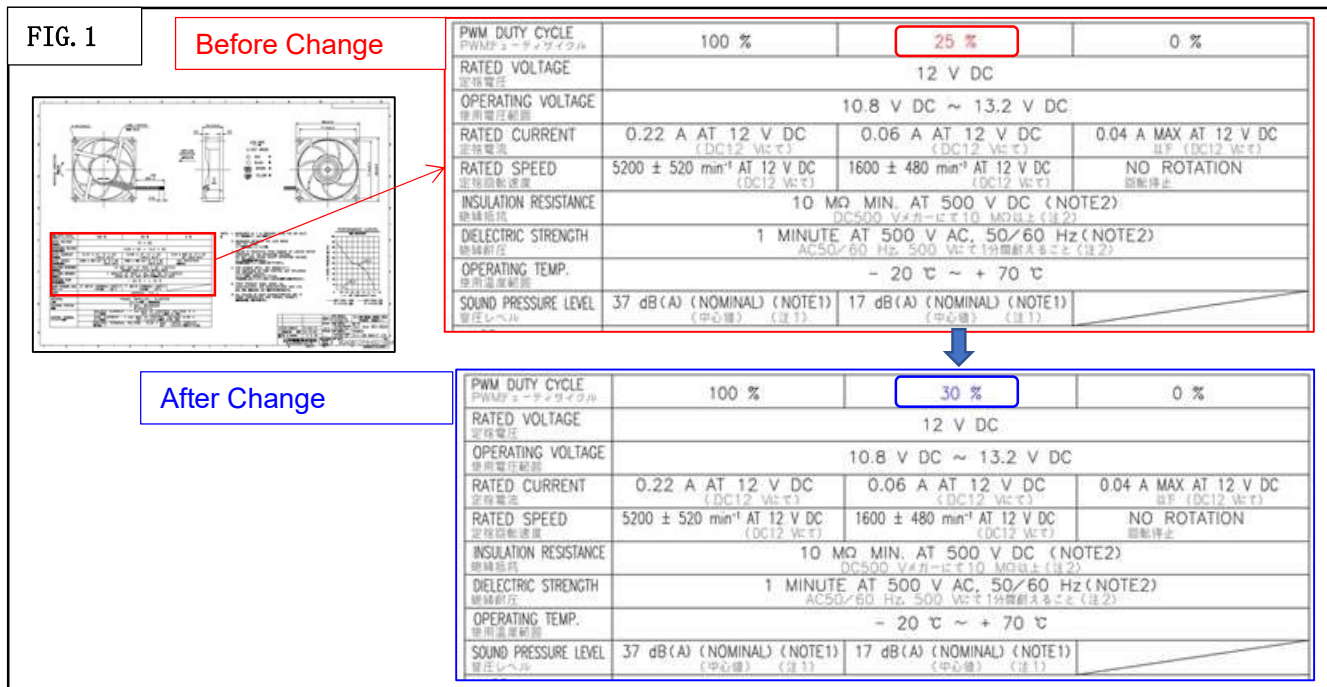
No. A0052618 - Attached Sheet 7 - 1/2

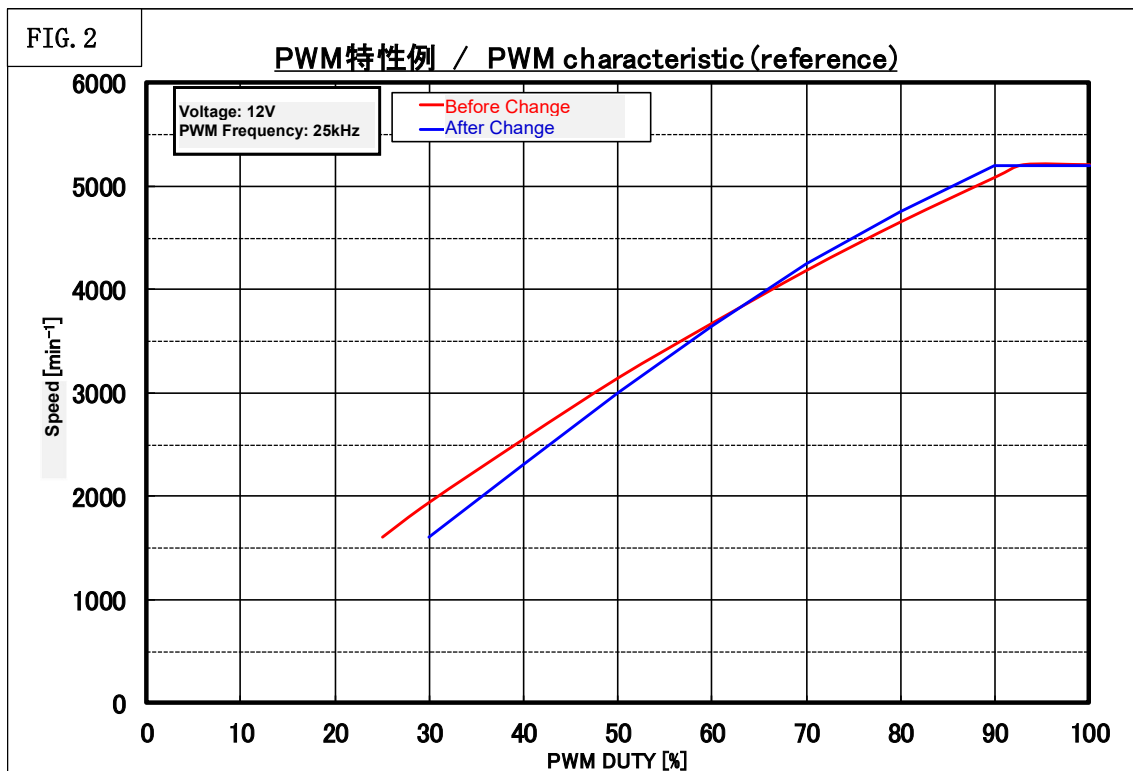
[MODEL]

9GA0812P4H001, 9GA0812P4H0011, 9GA0812P4H003, 9GA0812P4H0031, 9GA0812P4H004,
 9GA0812P4H0051, 9GA0812P4H006, 9GA0812P4H0061, 9GA0812P4H007, 9GA0812P4H0071,
 9GA0812P4H008, 9GA0812P4H009, 9GA0812P4H010, 9GA0812P4H011, 9GA0812P4H013,
 9GA0812P4H014, 9GA0812P4H015

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11970FV By On-semiconductor	TC78B002 By Toshiba
Operating voltage	No change	
Electrical current	0.06[A] @ PWM 25% Refer to Fig.1	0.06[A] @ PWM 30% Refer to Fig.1
Speed	1600 +/- 480 [min ⁻¹] @ PWM 25% Refer to Fig.1	1600 +/- 480 [min ⁻¹] @ PWM 30% Refer to Fig.1
Operating temp.	No change	
Sound pressure level	17[dBA(A)] @ PWM 25% Refer to Fig.1	17[dBA(A)] @ PWM 30% 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	



No. A0052618 - Attached Sheet 7 - 2/2

No. A0052618 - Attached Sheet 8 - 1/1

[MODEL]

9GA0824J4001, 9GA0824J40011, 9GA0824J4002, 9GA0824J40021, 9GA0824J40031, 9GA0824J4004,
 9GA0824J4005, 9GA0824J4006, 9GA0824J4007, 9GA0824J4D001, 9GA0824J4D0011, 9GA0824J4D003,
 9GA0824J4D005, 9GA0824J4D006, 9GA0824J4D009

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11967V 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. A0052618 - Attached Sheet 9 - 1/1

[MODEL]

9GA0824G4001, 9GA0824G40011, 9GA0824G4002, 9GA0824G40021, 9GA0824G4003, 9GA0824G4004,
 9GA0824G4005, 9GA0824G4006, 9GA0824G4008,
 9GA0824G4D001, 9GA0824G4D003, 9GA0824G4D004,
 9GA0824H4001, 9GA0824H40011, 9GA0824H4002, 9GA0824H40021, 9GA0824H4003, 9GA0824H4004,
 9GA0824H4005,
 9GA0824H4D001

[Contents of change]

	Before Change	After Change
Motor drive IC	LV8860 By On-semiconductor	NJW4320 By New-Japan-Radio
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. A0052618 - Attached Sheet 10 - 1/1

[MODEL]

9GA0824P4J001, 9GA0824P4J0011, 9GA0824P4J004, 9GA0824P4J0041, 9GA0824P4J005,
 9GA0824P4J006, 9GA0824P4J007, 9GA0824P4J008, 9GA0824P4J009, 9GA0824P4J011, 9GA0824P4J013,
 9GA0824P4J014, 9GA0824P4J015,
 9GA0824P4JD001, 9GA0824P4JD0011, 9GA0824P4JD004, 9GA0824P4JD005

[Contents of change]

	Before Change	After Change
Motor drive IC	LB11967V 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	

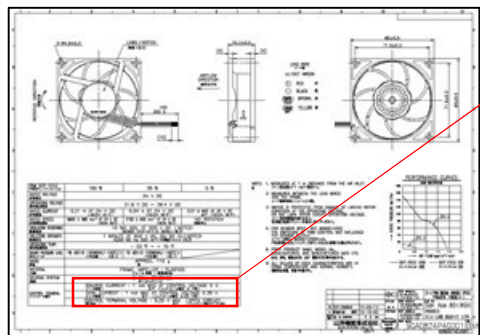
No. A0052618 - Attached Sheet 11 - 1/1

[MODEL]

9GA0824P4G001, 9GA0824P4G0011, 9GA0824P4G002, 9GA0824P4G0031, 9GA0824P4G004,
 9GA0824P4G005, 9GA0824P4G006, 9GA0824P4G007,
 9GA0824P4H001, 9GA0824P4H0011, 9GA0824P4H003, 9GA0824P4H006, 9GA0824P4H009,
 9GA0824P4HD001

[Contents of change]

	Before Change	After Change
Motor drive IC	LV8860 By On-semiconductor	NJW4320 By New-Japan-Radio
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

SOURCE CURRENT : 1 mA MAX. AT CONTROL VOLTAGE 0 V ソース電流 : 以下 (コントロール電圧 0 V時)
SINK CURRENT : 1 mA MAX. AT CONTROL VOLTAGE 5.25 V シンク電流 : 以下 (コントロール電圧 5.25 V時)
CONTROL TERMINAL VOLTAGE : 5.25 V MAX. (OPEN CIRCUIT) 端子電圧 : 以下 (コントロール端子オープン時)

After Change

SOURCE CURRENT : 2 mA MAX. AT CONTROL VOLTAGE 0 V ソース電流 : 以下 (コントロール電圧 0 V時)
SINK CURRENT : 1 mA MAX. AT CONTROL VOLTAGE 5.25 V シンク電流 : 以下 (コントロール電圧 5.25 V時)
CONTROL TERMINAL VOLTAGE : 5.25 V MAX. (OPEN CIRCUIT) 端子電圧 : 以下 (コントロール端子オープン時)