

MGFW40 Series EMI/EMS Test results

Approved :

Junichi Hatagishi

Junichi Hatagishi

Prepared :

Shohei Mukaide

Shohei Mukaide

No.	Test item	Conditions	Conditions of Acceptability	Result
1	Line conduction	(1) Rated input (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Testing circuitry Fig.1	(1)Meets the undermentioned standard. FCC Part15 classA , VCCI classA CISPR32 classA , EN55032-A	ok
2	Radiated emission	(1) Rated input (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Testing circuitry Fig.1	(1)Meets the under mentioned standard. FCC Part15 classA , VCCI classA CISPR32 classA , EN55032-A	ok
3	Static electricity immunity test (EN61000-4-2)	(1) Rated input (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Contact discharge voltage 4[kV] (EN61000-4-2 Level 2) (5) Testing circuitry Fig.2	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure.	ok
4	Radiated, radio-frequency, electromagnetic field immunity test (EN61000-4-3)	(1) Rated input (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4)Testing field strength (Level 3) ① 10 [V/m] (80MHz to 1.0GHz) ② 3 [V/m] (1.4GHz to 2.0GHz) ③ 1 [V/m] (2.0GHz to 2.7GHz) (5) Testing circuitry Fig.1	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure.	ok
5	Electrical fast transient/ burst immunity test (EN61000-4-4)	(1) Rated input (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Test peak voltage 4[kV] (IEC61000-4-4 Level 4) (5) Testing circuitry Fig.2	(1)No protection circuit failure. (2)No output voltage drop with control circuit failure. (3)No any other function failure.	ok
6	Surge immunity test (EN61000-4-5)	(1) Rated input (2) Rated load (3) Ambient temp. $25 \pm 10^{\circ}\text{C}$ (4) Test voltage Line to line 2[kV] (Level 4) (5) Testing circuitry Fig.2	(1)The power supply is not stop. (2)Circuit does not malfunction. (3)No abnormality of the insulation destruction etc. (4)Parts are no damaged.	ok



Conditions

Test : Line conduction , Radiated emission
Radiated, radio-frequency, electromagnetic field immunity test

Model Name : MGFW40□□

○Testing circuitry

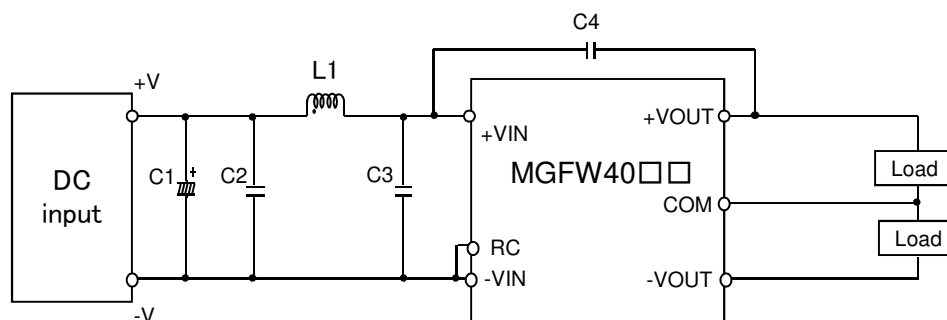


Fig.1 Testing circuitry

C1 :	MGFW4005□□	10V 4700 μ F Electrolytic capacitor (UHWseries NICHICON CORPORATION)
	MGFW4024□□	63V 220 μ F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)
	MGFW4048□□	100V 220 μ F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)
C2 :	MGFW4005□□	16V 22 μ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)
	MGFW4024□□	50V 10 μ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)
	MGFW4048□□	100V 4.7 μ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)
C3 :	MGFW4005□□	16V 22 μ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)
	MGFW4024□□	50V 10 μ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)
	MGFW4048□□	100V 4.7 μ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)
C4 :	MGFW4005□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
	MGFW4024□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
	MGFW4048□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
L1 :	MGFW4005□□	15.0A 1.0 μ H Inductor (SRP7050TA-1R0M BOURNS)
	MGFW4024□□	12.0A 1.8 μ H Inductor (SRP7050TA-1R8M BOURNS)
	MGFW4048□□	6.0A 5.6 μ H Inductor (SRP7050TA-5R6M BOURNS)

Conditions

Test : Static electricity immunity test
Electrical fast transient/burst immunity test
Surge immunity test

Model Name : MGFW40□□

○Testing circuitry

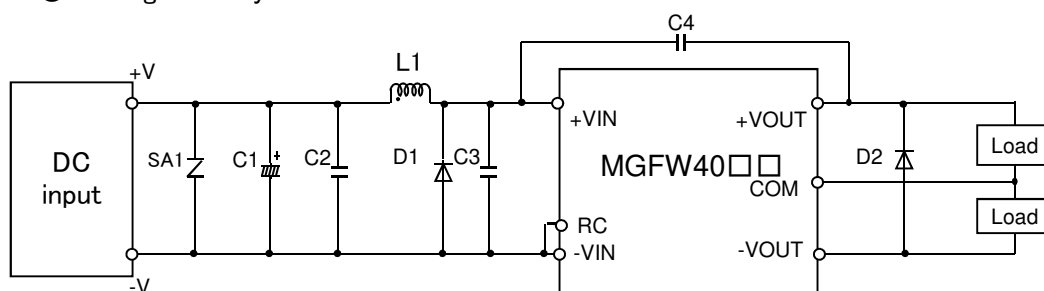


Fig.2 Testing circuitry

- SA1 : MGFW4005□□ ERZV10D470 (Panasonic)
MGFW4024□□ ERZV10D470 (Panasonic)
MGFW4048□□ ERZV10D101 (Panasonic)
- C1 : MGFW4005□□ 10V 4700 μ F Electrolytic capacitor (UHWseries NICHICON CORPORATION)
MGFW4024□□ 63V 470 μ F Electrolytic capacitor (ELXZseries NIPPON CHEMI-CON)
MGFW4048□□ 100V 220 μ F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)
- C2 : MGFW4005□□ 16V 22 μ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)
MGFW4024□□ 50V 10 μ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)
MGFW4048□□ 100V 4.7 μ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)
- C3 : MGFW4005□□ 16V 22 μ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)
MGFW4024□□ 50V 10 μ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)
MGFW4048□□ 100V 4.7 μ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)
- C4 : MGFW4005□□ 2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
MGFW4024□□ 2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
MGFW4048□□ 2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
- L1 : MGFW4005□□ 15.0A 1.0 μ H Inductor (SRP7050TA-1R0M BOURNS)
MGFW4024□□ 12.0A 1.8 μ H Inductor (SRP7050TA-1R8M BOURNS)
MGFW4048□□ 6.0A 5.6 μ H Inductor (SRP7050TA-5R6M BOURNS)
- D1,D2 : MGFW4005□□ 400V 3A Diode(S3L40U SHINDENGEN)
MGFW4024□□ 400V 3A Diode(S3L40U SHINDENGEN)
MGFW4048□□ 400V 3A Diode(S3L40U SHINDENGEN)