



December 26, 2018  
OS DESIGN DEPT.

**MGFS40 Series EMI/EMS Test results**

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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 : MGFS40□□

## ○Testing circuitry

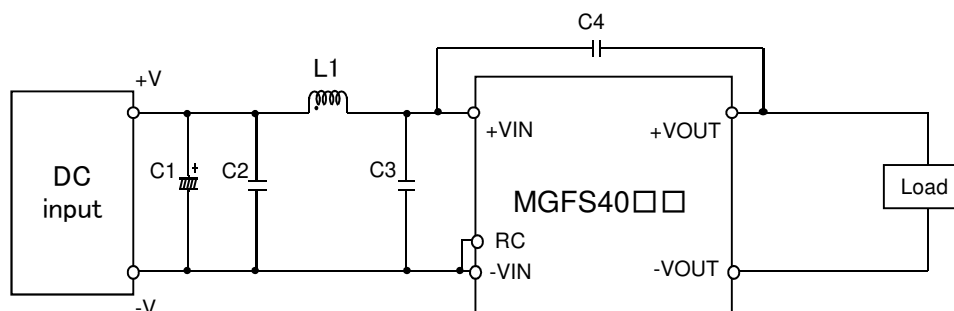


Fig.1 Testing circuitry

C1 :	MGFS4005□□	10V 4700 $\mu$ F Electrolytic capacitor (UHWseries NICHICON CORPORATION)
	MGFS4024□□	63V 220 $\mu$ F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)
	MGFS4048□□	100V 220 $\mu$ F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)
C2 :	MGFS4005□□	16V 22 $\mu$ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)
	MGFS4024□□	50V 10 $\mu$ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)
	MGFS4048□□	100V 4.7 $\mu$ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)
C3 :	MGFS4005□□	16V 22 $\mu$ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)
	MGFS4024□□	50V 10 $\mu$ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)
	MGFS4048□□	100V 4.7 $\mu$ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)
C4 :	MGFS4005□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
	MGFS4024□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
	MGFS4048□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
L1 :	MGFS4005□□	15.0A 1.0 $\mu$ H Inductor (SRP7050TA-1R0M BOURNS)
	MGFS4024□□	12.0A 1.8 $\mu$ H Inductor (SRP7050TA-1R8M BOURNS)
	MGFS4048□□	6.0A 5.6 $\mu$ H Inductor (SRP7050TA-5R6M BOURNS)



## Conditions

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

Model Name : MGFS40□□

### ○Testing circuitry

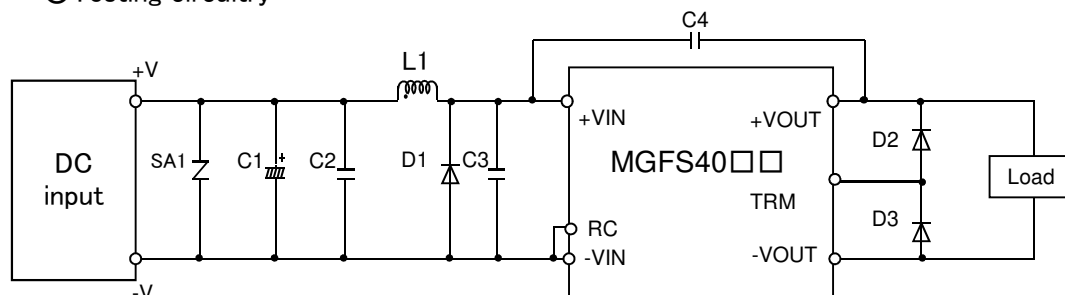


Fig.2 Testing circuitry

- SA1 : MGFS4005□□ ERZV10D470 (Panasonic)  
MGFS4024□□ ERZV10D470 (Panasonic)  
MGFS4048□□ ERZV10D101 (Panasonic)
- C1 : MGFS4005□□ 10V 4700  $\mu$ F Electrolytic capacitor (UHWseries NICHICON CORPORATION)  
MGFS4024□□ 63V 470  $\mu$ F Electrolytic capacitor (ELXZseries NIPPON CHEMI-CON)  
MGFS4048□□ 100V 220  $\mu$ F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)
- C2 : MGFS4005□□ 16V 22  $\mu$ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)  
MGFS4024□□ 50V 10  $\mu$ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)  
MGFS4048□□ 100V 4.7  $\mu$ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)
- C3 : MGFS4005□□ 16V 22  $\mu$ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)  
MGFS4024□□ 50V 10  $\mu$ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)  
MGFS4048□□ 100V 4.7  $\mu$ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)
- C4 : MGFS4005□□ 2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)  
MGFS4024□□ 2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)  
MGFS4048□□ 2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)
- L1 : MGFS4005□□ 15.0A 1.0  $\mu$ H Inductor (SRP7050TA-1R0M BOURNS)  
MGFS4024□□ 12.0A 1.8  $\mu$ H Inductor (SRP7050TA-1R8M BOURNS)  
MGFS4048□□ 6.0A 5.6  $\mu$ H Inductor (SRP7050TA-5R6M BOURNS)
- D1,D2 : MGFS4005□□ 400V 3A Diode(S3L40U SHINDENGEN)  
D3 : MGFS4024□□ 400V 3A Diode(S3L40U SHINDENGEN)  
MGFS4048□□ 400V 3A Diode(S3L40U SHINDENGEN)