

MGFS80 Series EMI/EMS Test results

Approved :

*Junichi Hatagishi*

Junichi Hatagishi

Prepared :

*Ryosuke Nakao*

Ryosuke Nakao

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 : MGFS80□□

### ○Testing circuitry

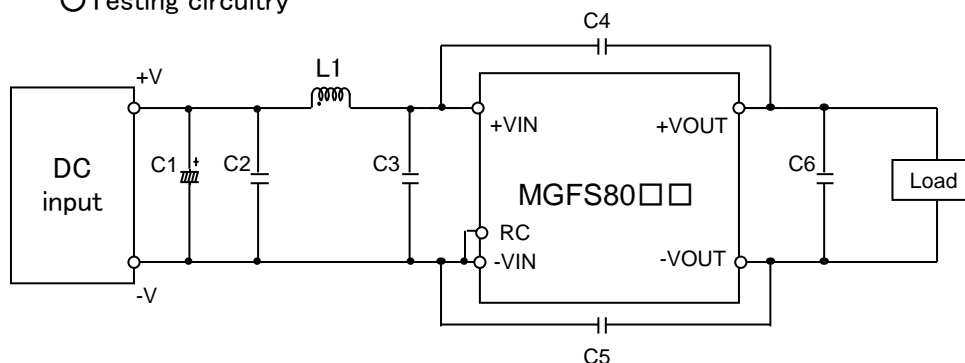


Fig.1 Testing circuitry

- C1 : MGFS8024□□ 63V 470 $\mu$  F Electrolytic capacitor (ELXZseries NIPPON CHEMI-CON)  
MGFS8048□□ 100V 220 $\mu$  F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)
- C2 : MGFS8024□□ 50V 10 $\mu$  F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)  
MGFS8048□□ 100V 4.7 $\mu$  F Ceramic capacitor (HMK325C7475K TAIYOU YUDEN)
- C3 : MGFS8024□□ 50V 10 $\mu$  F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)  
MGFS8048□□ 100V 4.7 $\mu$  F Ceramic capacitor (HMK325C7475K TAIYOU YUDEN)
- C4,C5 : MGFS8024□□ 2kV 2200pF Ceramic capacitor  
(GR443QR73D222KW01 MURATA MANUFACTURING)  
MGFS8048□□ 2kV 3300pF Ceramic capacitor  
(GR443QR73D332KW01 MURATA MANUFACTURING)
- C6 : MGFS8024□□ 25V 22 $\mu$  F Ceramic capacitor (GRM32ER71E226K MURATA MANUFACTURING)  
MGFS8048□□ 25V 22 $\mu$  F Ceramic capacitor (GRM32ER71E226K MURATA MANUFACTURING)
- L1 : MGFS8024□□ 12.0A 1.8 $\mu$  H Inductor (SRP7050TA-1R8M BOURNS)  
MGFS8048□□ 8.0A 3.3 $\mu$  H Inductor (SRP7050TA-3R3M BOURNS)



### Conditions

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

Model Name : MGFS80□□

### ○Testing circuitry

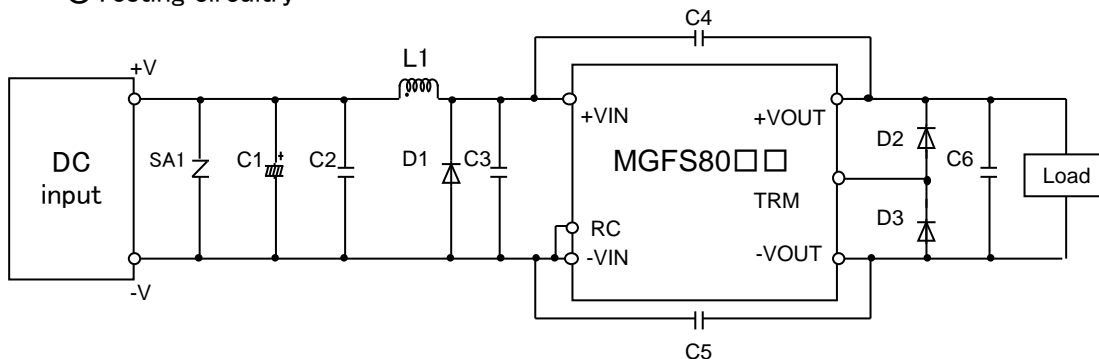


Fig.2 Testing circuitry

- SA1 : MGFS8024□□ ERZV10D470 (Panasonic)  
 MGFS8048□□ ERZV10D101 (Panasonic)
- C1 : MGFS8024□□ 63V 470 $\mu$  F Electrolytic capacitor (ELXZseries NIPPON CHEMI-CON)  
 MGFS8048□□ 100V 220 $\mu$  F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)
- C2 : MGFS8024□□ 50V 10 $\mu$  F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)  
 MGFS8048□□ 100V 4.7 $\mu$  F Ceramic capacitor (HMK325C7475K TAIYOU YUDEN)
- C3 : MGFS8024□□ 50V 10 $\mu$  F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)  
 MGFS8048□□ 100V 4.7 $\mu$  F Ceramic capacitor (HMK325C7475K TAIYOU YUDEN)
- C4,C5 : MGFS8024□□ 2kV 2200pF Ceramic capacitor  
 (GR443QR73D222KW01 MURATA MANUFACTURING)  
 MGFS8048□□ 2kV 3300pF Ceramic capacitor  
 (GR443QR73D332KW01 MURATA MANUFACTURING)
- C6 : MGFS8024□□ 25V 22 $\mu$  F Ceramic capacitor (GRM32ER71E226K MURATA MANUFACTURING)  
 MGFS8048□□ 25V 22 $\mu$  F Ceramic capacitor (GRM32ER71E226K MURATA MANUFACTURING)
- L1 : MGFS8024□□ 12.0A 1.8 $\mu$  H Inductor (SRP7050TA-1R8M BOURNS)  
 MGFS8048□□ 8.0A 3.3 $\mu$  H Inductor (SRP7050TA-3R3M BOURNS)
- D1,D2 : MGFS8024□□ 400V 3A Diode(S3L40U SHINDENGEN)  
 D3 : MGFS8048□□ 400V 3A Diode(S3L40U SHINDENGEN)