



July 29, 2016
OS DESIGN DEPT.

MGS10 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 CISPR22 classA , EN55022-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 CISPR22 classA , EN55022-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.1	(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.1	(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 3) (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

COSEL

○Testing circuitry 1

Test : Line conduction , Radiated emission
 Static electricity immunity test
 Radiated, radio-frequency, electromagnetic field immunity test
 Electrical fast transient / burst immunity test

Model Name : MGS10□□

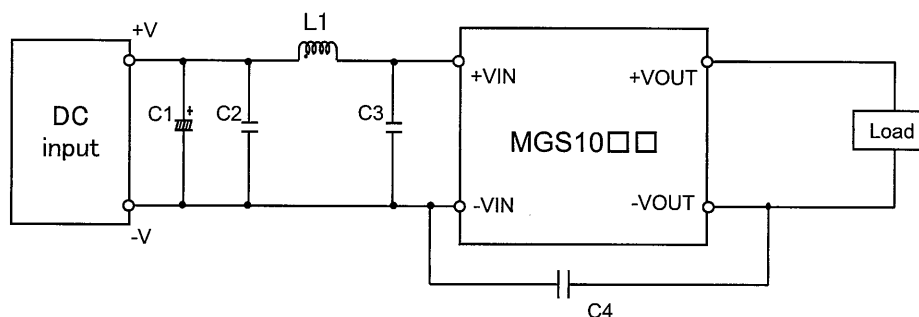


Fig.1 Testing circuitry

C1 :	MGS1005□□	25V 470 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1012□□	50V 100 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1024□□	50V 100 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1048□□	100V 39 μ F Electric capacitor (LXVseries NIPPON CHEMI-CON)
C2 :	MGS1005□□	16V 22 μ F Ceramic capacitor (GRM31CC71C226K MURATA MANUFACTURING)
	MGS1012□□	25V 10 μ F Ceramic capacitor (GRM31CR71E106K MURATA MANUFACTURING)
	MGS1024□□	50V 4.7 μ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
	MGS1048□□	100V 2.2 μ F Ceramic capacitor (GRM31CC72A225K MURATA MANUFACTURING)
C3 :	MGS1005□□	-
	MGS1012□□	25V 10 μ F Ceramic capacitor (GRM31CR71E106K MURATA MANUFACTURING)
	MGS1024□□	50V 4.7 μ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
	MGS1048□□	100V 2.2 μ F Ceramic capacitor (GRM31CC72A225K MURATA MANUFACTURING)
C4 :	MGS1005□□	2kV 1000pF Ceramic capacitor (GR442QR73D102K MURATA MANUFACTURING)
	MGS1012□□	2kV 1000pF Ceramic capacitor (GR442QR73D102K MURATA MANUFACTURING)
	MGS1024□□	2kV 1000pF Ceramic capacitor (GR442QR73D102K MURATA MANUFACTURING)
	MGS1048□□	2kV 2200pF Ceramic capacitor (GR443QR73D222K MURATA MANUFACTURING)
L1 :	MGS1005□□	3000mA 1.5 μ H Inductor(LQH5BPN1R5NT0 MURATA MANUFACTURING)
	MGS1012□□	2600mA 2.2 μ H Inductor(LQH5BPN2R2NT0 MURATA MANUFACTURING)
	MGS1024□□	1600mA 10 μ H Inductor(LQH5BPN100MT0 MURATA MANUFACTURING)
	MGS1048□□	1050mA 22 μ H Inductor(LQH5BPN220MT0 MURATA MANUFACTURING)

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○Testing circuitry 2

Test : Surge immunity test

Model Name : MGS10□□

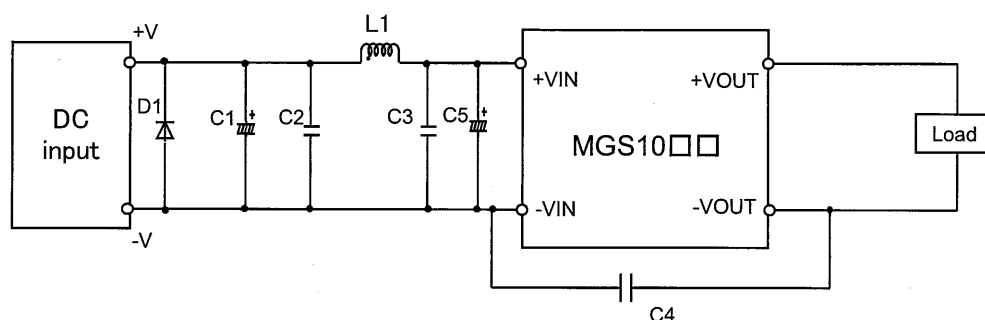


Fig.2 Testing circuitry

C1 :	MGS1005□□	16V 2200 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1012□□	25V 1000 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1024□□	63V 470 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1048□□	100V 180 μ F Electric capacitor (LXVseries NIPPON CHEMI-CON)
C2 :	MGS1005□□	16V 22 μ F Ceramic capacitor (GRM31OC71C226K MURATA MANUFACTURING)
	MGS1012□□	25V 10 μ F Ceramic capacitor (GRM31CR71E106K MURATA MANUFACTURING)
	MGS1024□□	50V 4.7 μ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
	MGS1048□□	100V 2.2 μ F Ceramic capacitor (GRM31CC72A225K MURATA MANUFACTURING)
C3 :	MGS1005□□	-
	MGS1012□□	25V 10 μ F Ceramic capacitor (GRM31CR71E106K MURATA MANUFACTURING)
	MGS1024□□	50V 4.7 μ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
	MGS1048□□	100V 2.2 μ F Ceramic capacitor (GRM31CC72A225K MURATA MANUFACTURING)
C4 :	MGS1005□□	2kV 1000pF Ceramic capacitor (GR442QR73D102K MURATA MANUFACTURING)
	MGS1012□□	2kV 1000pF Ceramic capacitor (GR442QR73D102K MURATA MANUFACTURING)
	MGS1024□□	2kV 1000pF Ceramic capacitor (GR442QR73D102K MURATA MANUFACTURING)
	MGS1048□□	2kV 2200pF Ceramic capacitor (GR443QR73D222K MURATA MANUFACTURING)
C5 :	MGS1005□□	16V 2200 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1012□□	25V 1000 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1024□□	63V 470 μ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MGS1048□□	100V 180 μ F Electric capacitor (LXVseries NIPPON CHEMI-CON)
L1 :	MGS1005□□	3000mA 1.5 μ H Inductor (LQH5BPN1R5NT0 MURATA MANUFACTURING)
	MGS1012□□	2600mA 2.2 μ H Inductor (LQH5BPN2R2NT0 MURATA MANUFACTURING)
	MGS1024□□	1600mA 10 μ H Inductor (LQH5BPN100MT0 MURATA MANUFACTURING)
	MGS1048□□	1050mA 22 μ H Inductor (LQH5BPN220MT0 MURATA MANUFACTURING)
D1 :	MGS1005□□	400V 3A Diode (S3L40U SHINDENGEN)
	MGS1012□□	400V 3A Diode (S3L40U SHINDENGEN)
	MGS1024□□	400V 3A Diode (S3L40U SHINDENGEN)
	MGS1048□□	400V 3A Diode (S3L40U SHINDENGEN)