



## EMI/EMS Test Result

Model Name : MHFS6 series

Approved : Kenichi Tsukada

The EUT is operated with following condition during EMI/EMS test.

Input Voltage : Rated Voltage  
Output Current : Rated Current  
Ambient Temperature : 25°C ± 10°C

Prepared : Eisu Ushitani

#	Subject	Reference standard	Test Condition	Criteria *1	Result
1	EMI	Conducted Emission	EN55011, EN55032 Class A CISPR 32 Class A FCC Part15 Class A VCCI Class A Testing circuitry Fig. 1	-	Pass
2		Radiated Emission	EN55011, EN55032 Class A CISPR 32 Class A FCC Part15 Class A VCCI Class A Testing circuitry Fig. 1	-	Pass
3	EMS	Electrostatic discharge immunity test	IEC61000-4-2 Contact Discharge : Level 2 (4kV) Air Discharge : Level 2 (4kV) Testing circuitry Fig. 1	A	Pass
4		Radiated, radio-frequency, electromagnetic field immunity test	IEC61000-4-3 10V/m : (80MHz~2.7GHz) 80% Amplitude modulated Testing circuitry Fig. 1	A	Pass
5		Electrical fast transient / Burst immunity test	IEC61000-4-4 Level 4 (4kV) Repetition Rate : 5kHz and 100kHz Testing circuitry Fig. 1	A	Pass
6		Surge immunity test	IEC61000-4-5 Line to Line : Level 4 (2kV) Testing circuitry Fig. 2	B	Pass

**\*1 Definition of Criteria**

Criteria A : (1) No output voltage drop with control circuit failure.  
(2) No protection circuit and other circuit malfunction.

Criteria B : (1) The output voltage is temporary degradation of performance.  
It recovers its normal performance without operator intervention.  
(2) No protection circuit and other circuit failure.

**<Notes>**

Power supply can't determine the final equipment performance against EMS test. Therefore we confirmed the output voltage performance only. EMS test should be performed as a final product.

## Conditions

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

Model Name : MHFS6□□

○Testing circuitry

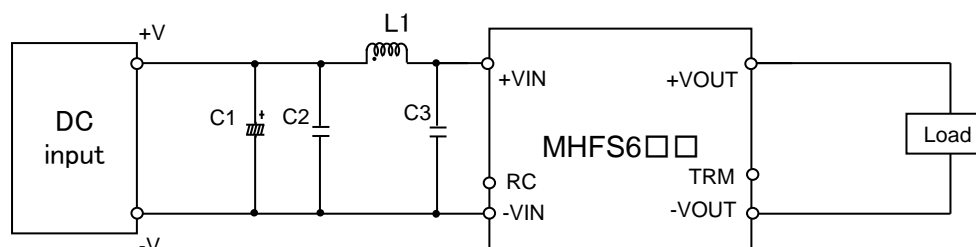


Fig.1 Testing circuitry

C1 :	MHFS612□□	50V 100 $\mu$ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MHFS624□□	—
	MHFS648□□	—
C2 :	MHFS612□□	25V 10 $\mu$ F Ceramic capacitor (GRM31CR71E106K MURATA MANUFACTURING)
	MHFS624□□	50V 4.7 $\mu$ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
	MHFS648□□	100V 2.2 $\mu$ F Ceramic capacitor (HMK316AC7225KLHTE TAIYO YUDEN)
C3 :	MHFS612□□	25V 10 $\mu$ F Ceramic capacitor (GRM31CR71E106K MURATA MANUFACTURING)
	MHFS624□□	50V 4.7 $\mu$ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
	MHFS648□□	100V 2.2 $\mu$ F Ceramic capacitor (HMK316AC7225KLHTE TAIYO YUDEN)
L1 :	MHFS612□□	2600mA 2.2 $\mu$ H Inductor(LQH5BPN2R2NT0 MURATA MANUFACTURING)
	MHFS624□□	1600mA 10 $\mu$ H Inductor(LQH5BPN100MT0 MURATA MANUFACTURING)
	MHFS648□□	1050mA 22 $\mu$ H Inductor(LQH5BPN220MT0 MURATA MANUFACTURING)

## Conditions

Test : Surge immunity test

Model Name : MHFS6□□

○Testing circuitry

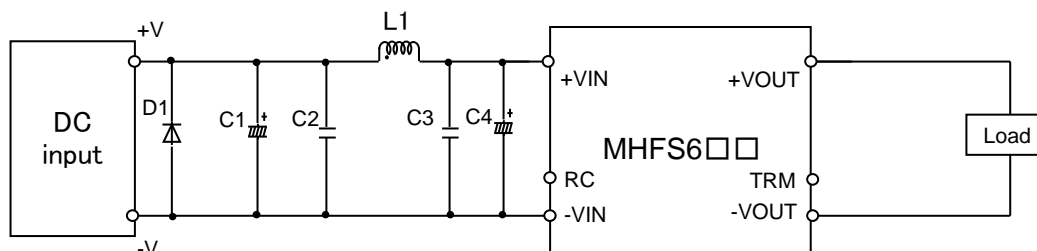


Fig.2 Testing circuitry

C1 :	MHFS612□□	25V 1000 $\mu$ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MHFS624□□	63V 470 $\mu$ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MHFS648□□	100V 180 $\mu$ F Electric capacitor (LXVseries NIPPON CHEMI-CON)
C2 :	MHFS612□□	25V 10 $\mu$ F Ceramic capacitor (GRM31CR71E106K MURATA MANUFACTURING)
	MHFS624□□	50V 4.7 $\mu$ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
	MHFS648□□	100V 2.2 $\mu$ F Ceramic capacitor (HMK316AC7225KLHTE TAIYO YUDEN)
C3 :	MHFS612□□	25V 10 $\mu$ F Ceramic capacitor (GRM31CR71E106K MURATA MANUFACTURING)
	MHFS624□□	50V 4.7 $\mu$ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
	MHFS648□□	100V 2.2 $\mu$ F Ceramic capacitor (HMK316AC7225KLHTE TAIYO YUDEN)
C4 :	MHFS612□□	25V 1000 $\mu$ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MHFS624□□	63V 470 $\mu$ F Electric capacitor (LXZseries NIPPON CHEMI-CON)
	MHFS648□□	100V 180 $\mu$ F Electric capacitor (LXVseries NIPPON CHEMI-CON)
L1 :	MHFS612□□	2600mA 2.2 $\mu$ H Inductor(LQH5BPN2R2NT0 MURATA MANUFACTURING)
	MHFS624□□	1600mA 10 $\mu$ H Inductor(LQH5BPN100MT0 MURATA MANUFACTURING)
	MHFS648□□	1050mA 22 $\mu$ H Inductor(LQH5BPN220MT0 MURATA MANUFACTURING)
D1 :	MHFS612□□	400V 3A Diode(S3L40U SHINDENGEN)
	MHFS624□□	400V 3A Diode(S3L40U SHINDENGEN)
	MHFS648□□	400V 3A Diode(S3L40U SHINDENGEN)