



EMI/EMS Test Result

Model Name : MUS15 series

Approved : Masahiro Shima

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 : Takahiro Tamura

#	Subject	Reference standard	Test Condition	Criteria *1	Result
1	EMI	Conducted Emission	EN55011, EN55032 Class A CISPR11, CISPR32 Class A FCC Part15, FCC Part18 Class A VCCI Class A Testing circuitry Fig. 1	-	Pass
2		Radiated Emission	EN55011, EN55032 Class A CISPR11, CISPR32 Class A FCC Part15, FCC Part18 Class A VCCI Class A Testing circuitry Fig. 1	-	Pass
3	EMS	Electrostatic discharge immunity test	IEC61000-4-2 Contact Discharge : Level 4 (8kV) Air Discharge Testing circuitry Fig. 1	A	Pass
4		Radiated, radio-frequency, electromagnetic field immunity test	IEC61000-4-3 10V/m : (80MHz~1GHz) 3V/m : (1.4GHz~2.0GHz) 1V/m : (2.0GHz~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. 2-1, 2-2	A	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 shall not 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
 Electrostatic discharge immunity test
 Radiated, radio-frequency, electromagnetic field immunity test
 Electrical fast transient / burst immunity test

Model Name : MUS15□□

○Testing circuitry

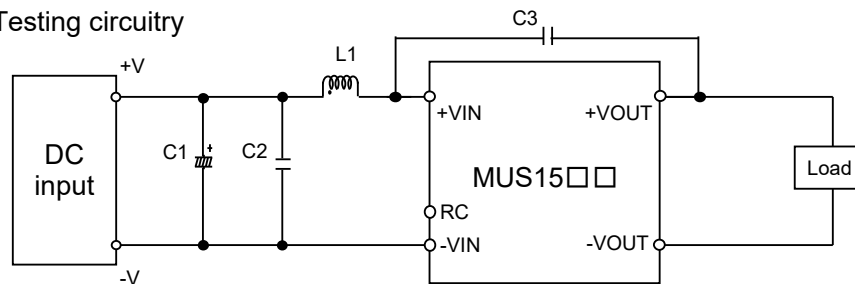


Fig.1 MUS15□□ Testing circuitry

- | | | |
|-----|----------|---|
| C1: | MUS1524□ | 50V 47μF Electric capacitor (UPWseries NICHICON) |
| | MUS1548□ | - |
| C2: | MUS1524□ | 50V 4.7μF Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING) |
| | MUS1548□ | 100V 2.2μF Ceramic capacitor (C3216X7S2A225KT TDK) |
| C3: | MUS15□□ | 2000V 1000pF Ceramic capacitor (C3225X7S3D102K200AA TDK) |
| L1: | MUS1524□ | 1600mA 22μH Inductor(LQH5BPN220M38 MURATA MANUFACTURING) |
| | MUS1548□ | 1100mA 47μH Inductor(LQH5BPN470M38 MURATA MANUFACTURING) |



Conditions

Test : Surge immunity test

Model Name : MUS15□□

○Testing circuitry

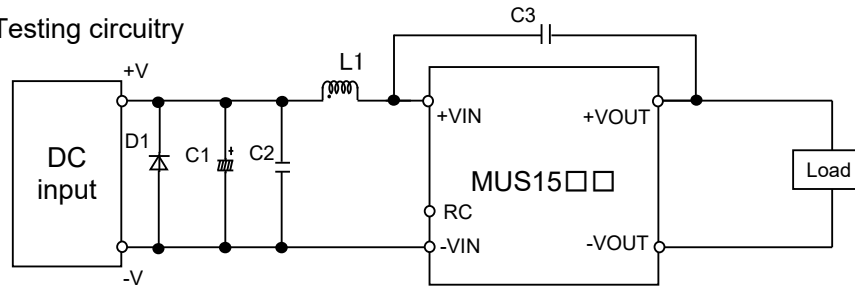


Fig.2 MUS15□□ Testing circuitry

- C1: MUS1524□ 50V 470 μ F Electric capacitor (KZEseries NIPPON CHEMI-CON)
 MUS1548□ 100V 220 μ F Electric capacitor (PXseries Rubycon)
- C2: MUS1524□ 50V 4.7 μ F Ceramic capacitor (GRM31CR71H475K MURATA MANUFACTURING)
 MUS1548□ 100V 2.2 μ F Ceramic capacitor (C3216X7S2A225KT TDK)
- C3: MUS15□□ 2000V 1000pF Ceramic capacitor (C3225X7S3D102K200AA TDK)
- L1: MUS1524□ 2600mA 22 μ H Inductor (LQH5BPN220M38 MURATA MANUFACTURING)
 MUS1548□ 1100mA 47 μ H Inductor (LQH5BPN470M38 MURATA MANUFACTURING)
- D1: MUS15□□ 400V 3A Diode(S3L40U SHINDENGEN)