



MG15 Series EMI/EMS Test results

Approved : Kazunari Asano  
Kazunari Asano

Prepared : Junki Nakayama  
Junki Nakayama

No.	Test item	Conditions	Conditions of Acceptability	Result
1	Line conduction	(1) Rated input (2) Rated load (3) Ambient temp. 25±10°C (4) Testing circuitry Fig.1	(1)Meets the undermentioned standard. FCC Part15 classA , VCCI classA CISPR11 classA , EN55011-A	OK
2	Radiated emission	(1) Rated input (2) Rated load (3) Ambient temp. 25±10°C (4) Testing circuitry Fig.1	(1)Meets the under mentioned standard. FCC Part15 classA , VCCI classA CISPR11 classA , EN55011-A	OK
3	Static electricity immunity test (EN61000-4-2)	(1) Rated input (2) Rated load (3) Ambient temp. 25±10°C (4) Contact discharge voltage 8[kV] (EN61000-4-2 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
4	Radiated, radio-frequency, electromagnetic field immunity test (EN61000-4-3)	(1) Rated input (2) Rated load (3) Ambient temp. 25±10°C (4)Testing field strength 10[V/m] (EN61000-4-3 Level 3) (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±10°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±10°C (4) Test voltage Line to line 2[kV] (Level 3) (5) Testing circuitry Fig.3	(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

Testing circuitry 1

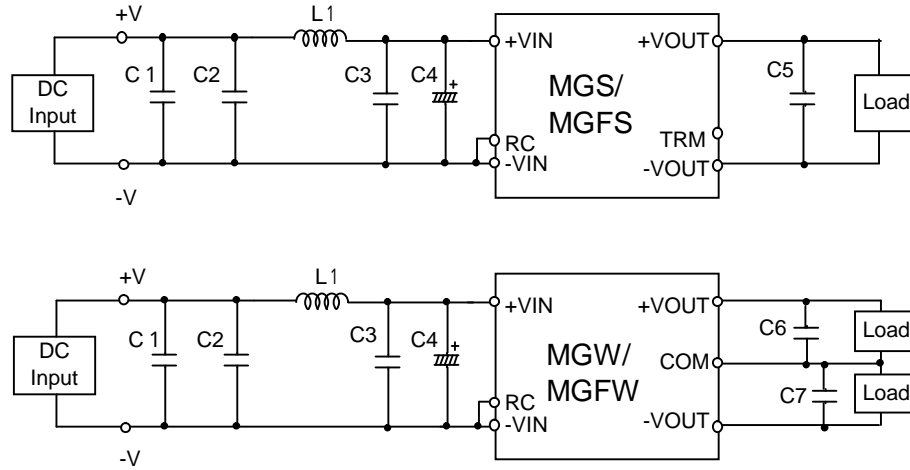


Fig.1 Testing circuitry 1

C1,C3	:	MG	1512		25V	10 $\mu$ F	Ceramic Capacitor	
		MG	1524	/MGF	1524	50V	6.8 $\mu$ F	Ceramic Capacitor
		MG	1548	/MGF	1548	100V	2.2 $\mu$ F	Ceramic Capacitor
C2	:	MG	1512		-			
		MG	1524	/MGF	1524	-		
		MG	1548	/MGF	1548	100V	2.2 $\mu$ F	Ceramic Capacitor
C4	:	MG	1512		50V	220 $\mu$ F	Electrolytic Capacitor	
		MG	1524	/MGF	1524	50V	100 $\mu$ F	Electrolytic Capacitor
		MG	1548	/MGF	1548	80V	47 $\mu$ F	Electrolytic Capacitor
L1	:	MG	1512	/MGF	1524	0.5 $\mu$ H	CI4C-0R5 (KORIN ELECTRONICS)	
		MG	1524	/MGF	1548	2.2 $\mu$ H	CI4C-2R2 (KORIN ELECTRONICS)	
		MG	1548			10 $\mu$ H	CI4C-100 (KORIN ELECTRONICS)	
C4,C5,C6	:	25V	22 $\mu$ F				Ceramic Capacitor	



Testing circuitry 2

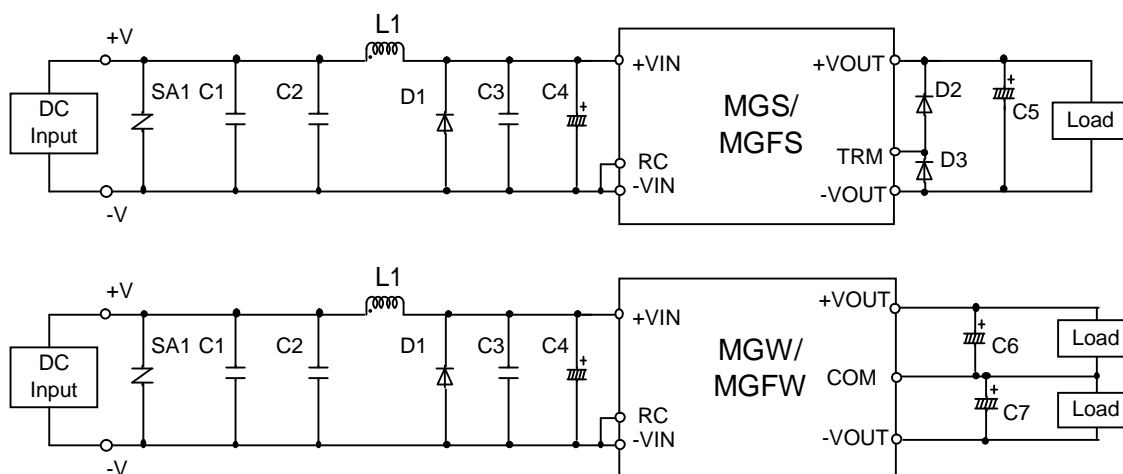


Fig.2 Testing circuitry 2

C1,C3	MG	1512		25V	10 $\mu$ F	Ceramic Capacitor
	MG	1524	/MGF 1524	50V	6.8 $\mu$ F	Ceramic Capacitor
	MG	1548	/MGF 1548	100V	2.2 $\mu$ F	Ceramic Capacitor
C2	MG	1512		-		
	MG	1524	/MGF 1524	-		
	MG	1548	/MGF 1548	100V	2.2 $\mu$ F	Ceramic Capacitor
C4	MG	1512		50V	220 $\mu$ F	Electrolytic Capacitor
	MG	1524	/MGF 1524	50V	100 $\mu$ F	Electrolytic Capacitor
	MG	1548	/MGF 1548	80V	47 $\mu$ F	Electrolytic Capacitor
SA1	MG	1512		27V	ERZV10D270	(PANASONIC)
	MG	1524	/MGF 1524	47V	ERZV10D470	(PANASONIC)
	MG	1548	/MGF 1548	100V	ERZV10D101	(PANASONIC)
L1	MG	1512	/MGF 1524	0.5 $\mu$ H	CI4C-0R5	(KORIN ELECTRONICS)
	MG	1524	/MGF 1548	2.2 $\mu$ H	CI4C-2R2	(KORIN ELECTRONICS)
	MG	1548		10 $\mu$ H	CI4C-100	(KORIN ELECTRONICS)
D1	1.5A	200V	D2FL20U	(SHINDENGEN)		
D2,D3	3A	600V	S3K60	(SHINDENGEN)		
C5	MGS15	3R3/MGFS15	3R3	50V	470 $\mu$ F	Electrolytic Capacitor
	MGS15	05/MGFS15	05	50V	470 $\mu$ F	Electrolytic Capacitor
	MGS15	12/MGFS15	12	35V	150 $\mu$ F	Electrolytic Capacitor
	MGS15	15/MGFS15	15	50V	100 $\mu$ F	Electrolytic Capacitor
C6,C7	MGW15	05/MGFW15	05	50V	330 $\mu$ F	Electrolytic Capacitor
	MGW15	12/MGFW15	12	50V	100 $\mu$ F	Electrolytic Capacitor
	MGW15	15/MGFW15	15	80V	47 $\mu$ F	Electrolytic Capacitor

Testing circuitry 3

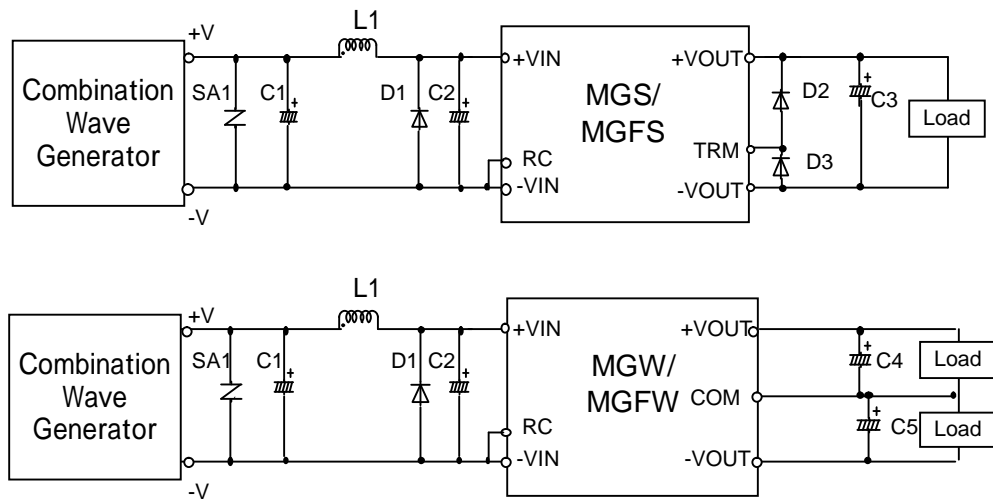


Fig.3 Testing circuitry 3

C1	MG	1512		50V	470 $\mu$ F	Electrolytic Capacitor
	MG	1524	/MGF 1524	50V	100 $\mu$ F	Electrolytic Capacitor
	MG	1548	/MGF 1548	80V	47 $\mu$ F	Electrolytic Capacitor
C2	MG	1512		50V	100 $\mu$ F	Electrolytic Capacitor
	MG	1524	/MGF 1524	80V	47 $\mu$ F	Electrolytic Capacitor
	MG	1548	/MGF 1548	100V	33 $\mu$ F	Electrolytic Capacitor
SA1	MG	1512		27V	ERZV10D270	(PANASONIC)
	MG	1524	/MGF 1524	47V	ERZV10D470	(PANASONIC)
	MG	1548	/MGF 1548	100V	ERZV10D101	(PANASONIC)
L1	MG	1512	/MGF 1524	0.5 $\mu$ H	CI4C-0R5	(KORIN ELECTRONICS)
	MG	1524	/MGF 1548	2.2 $\mu$ H	CI4C-2R2	(KORIN ELECTRONICS)
	MG	1548		10 $\mu$ H	CI4C-100	(KORIN ELECTRONICS)
D1	1.5A	200V	D2FL20U			(SHINDENGEN)
D2,D3	3A	600V	S3K60			(SHINDENGEN)
C3	MGS15	3R3/MGFS15	3R3	50V	470 $\mu$ F	Electrolytic Capacitor
	MGS15	05/MGFS15	05	50V	470 $\mu$ F	Electrolytic Capacitor
	MGS15	12/MGFS15	12	35V	150 $\mu$ F	Electrolytic Capacitor
	MGS15	15/MGFS15	15	50V	100 $\mu$ F	Electrolytic Capacitor
C4,C5	MGW15	05/MGFW15	05	50V	330 $\mu$ F	Electrolytic Capacitor
	MGW15	12/MGFW15	12	50V	100 $\mu$ F	Electrolytic Capacitor
	MGW15	15/MGFW15	15	80V	47 $\mu$ F	Electrolytic Capacitor