



MG15 series Reliability test results

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OS DESIGN DEPT.2

Approved : *Kazunari Asano*  
Kazunari Asano

Prepared : *Junki Nakayama*  
Junki Nakayama

No.	Test Item	Testing conditions	Conditions of acceptability	Number of samples	Number of failures
1	Heat cycle test	(1) -40° C ~ 125° C 30minutes each (2) 900cycles	(1)No degradation of electric characteristics after test. (2)No crack at solder joint.	5	0
2	High temperature/ High humidity bias test	(1) Ta=85°C, RH=85% (2) At rated input (3) Load 0% (4) 1000hours	(1)No degradation of electric characteristics after test.	3	0
3	Vibration test	(1) f=10~55Hz, 98.0m/s <sup>2</sup> (10G) (2) 3minutes period (3) 60minutes each X, Y and Z axis	(1)No degradation of electric characteristics after test. (2)No crack at solder joint. (3)No mechanical damage of appearance.	3	0
4	Impact test	(1) 490.3m/s <sup>2</sup> (50G), 11ms (2) Once each X, Y and Z axis	(1)No degradation of electric characteristics after test. (2)No crack at solder joint. (3)No thermal damage of appearance.	3	0
5	Soldering heat test	(1) Soldering iron 340~360°C, 7.5 seconds (2) Mounting board : t=1.6mm / FR4	(1)No crack at solder joint. (2)No marked damage of appearance.	1	0
6	Pin solder ability test	(1) Pre-process Step1 Humidifying processing (85°C, 85%, 168H) Step2 Dip into flux (2) Dip soldering 230~240°C, 2sec	(1)Over 95% of dipped part is covered with solder.	5	0
7	Pin strength test	(1) Weight : 1kg (2) Bending angle : 90 deg., total 180 deg. (3) 1 cycle	(1)No crack at solder joint. (2)No mechanical damage of appearance.	1	0
8	Static electricity immunity test	(1) Applied voltage ±8kV (2) At rated input and load (3) Testing circuitry Fig.1	(1)No protection circuit fail. (2)No output voltage drop due to control (3)No any other function fail.	7	0



Testing circuitry

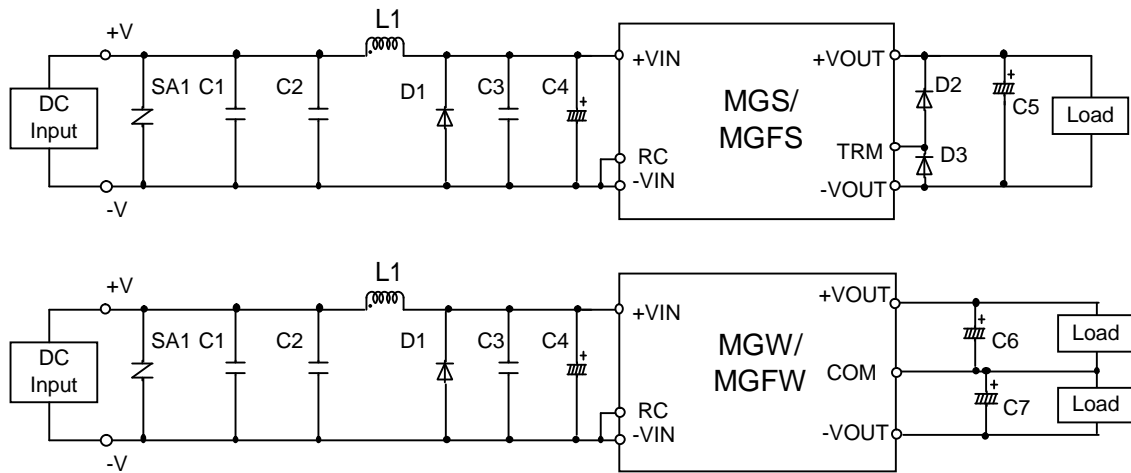


Fig.1 Testing circuitry

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