



MGFS40 series Reliability test results

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OS DESIGN DEPT.

Approved : *Junichi Hatagishi*
Junichi Hatagishi

Prepared : *Shohei Mukaide*
Shohei Mukaide

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) 800cycles	(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) Input Max.Voltege (3) Load 0% (4) 1000hours	(1)No degradation of electric characteristics after test.	5	0
3	Vibration test	(1) f=10~55Hz, 98.0m/s ² (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.	6	0
4	Impact test	(1) 490.3m/s ² (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.	6	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 (100°C, 100%, 1H) 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 ±4kV (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.	5	0



○Testing circuitry

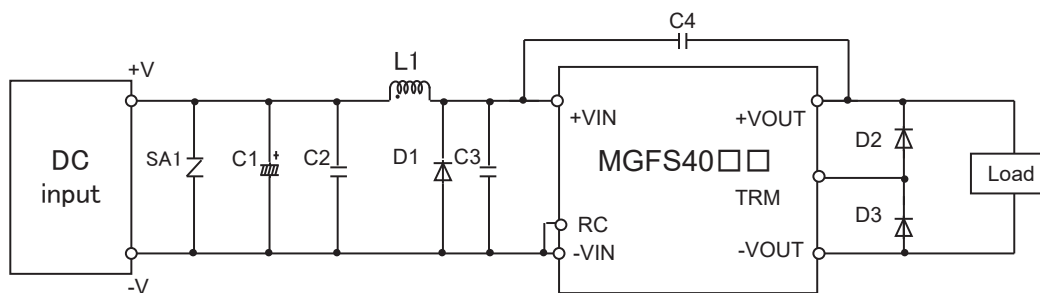


Fig.1 Testing circuitry

SA1	: MGFS4005□□	ERZV10D470 (Panasonic)	
	: MGFS4024□□	ERZV10D470 (Panasonic)	
	: MGFS4048□□	ERZV10D101 (Panasonic)	
C1	: MGFS4005□□	10V 4700μ F Electrolytic capacitor (UHWseries NICHICON CORPORATION)	
	: MGFS4024□□	63V 220μ F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)	
	: MGFS4048□□	100V 220μ F Electrolytic capacitor (KYseries NIPPON CHEMI-CON)	
C2	: MGFS4005□□	16V 22μ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)	
	: MGFS4024□□	50V 10μ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)	
	: MGFS4048□□	100V 4.7μ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)	
C3	: MGFS4005□□	16V 22μ F Ceramic capacitor (GRM32ER71C226K MURATA MANUFACTURING)	
	: MGFS4024□□	50V 10μ F Ceramic capacitor (GRM32ER71H106K MURATA MANUFACTURING)	
	: MGFS4048□□	100V 4.7μ F Ceramic capacitor (HMK325AC7475K TAIYOU YUDEN)	
C4	: MGFS4005□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)	
	: MGFS4024□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)	
	: MGFS4048□□	2kV 1000pF Ceramic capacitor (GR431BR7LA102K MURATA MANUFACTURING)	
L1	: MGFS4005□□	15.0A 1.0μ H Inductor (SRP7050TA-1R0M BOURNS)	
	: MGFS4024□□	12.0A 1.8μ H Inductor (SRP7050TA-1R8M BOURNS)	
	: MGFS4048□□	6.0A 5.6μ H Inductor (SRP7050TA-5R6M BOURNS)	
D1,D2	: MGFS4005□□	400V 3A Diode(S3L40U SHINDENGEN)	
	D3	: MGFS4024□□	400V 3A Diode(S3L40U SHINDENGEN)
		: MGFS4048□□	400V 3A Diode(S3L40U SHINDENGEN)