



MODULAR DEVICES, INC.

ONE RONED ROAD • BROOKHAVEN R&D PLAZA • SHIRLEY, NY 11967 (631) 345-3100
An ISO 9001:2000 Registered Company

Radiation Test Summary on MDI Model 3581

A Cobalt 60 total dose (gamma) test was performed on Model 3581, a five redundant output DC-DC Converter Assembly. This unit incorporates the patented MDI 100K+ technology. No internal or external radiation shielding was used.

The test was performed at the Brookhaven National Laboratories Gamma Radiation Facility, Building 356 in Upton, NY.

The unit was exposed to a Cobalt 60 source at a dose rate of approximately 29 kRads per hour, with a total ionizing dose of 153.7 kRads.

Operating conditions were full rated load with a 28 VDC input. The efficiency of the Model 3581 decreased approximately 0.5 %. The average output voltage also decreased approximately 0.44% over the same exposure.

TOTAL DOSE 100KRADS	INPUT VOLTAGE	INPUT CURRENT	-5.25VDC NOMINAL	5.25VDC NOMINAL	-14.75VDC NOMINAL	+14.75VDC NOMINAL	5.45VDC NOMINAL	AVERAGE %
PRE-START OF EXPOSURE	28.00v	3.29adc	-5.212vdc	5.158vdc	-14.703vdc	14.725vdc	5.339vdc	
POST EXPOSURE	28.00v	3.37adc	-5.180vdc	5.142vdc	-14.644vdc	14.674vdc	5.311vdc	
DELTA CHANGE			-0.614%	-0.310%	-0.401%	-0.346%	-0.524%	-0.439%



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TEST DATA Pre/During/Post

TOTAL DOSE 100KRADS	INPUT VOLTAGE	INPUT CURRENT	-5.25VDC NOMINAL	5.25VDC NOMINAL	-14.75VDC NOMINAL	+14.75VDC NOMINAL	5.45VDC NOMINAL	TIME
MDI IN HOUSE MEASUREMENTS	28.00v	3.33adc	-5.201vdc	5.163vdc	-14.700vdc	14.738vdc	5.338vdc	MDI
PRE-START OF EXPOSURE	28.00v	3.29adc	-5.212vdc	5.158vdc	-14.703vdc	14.725vdc	5.339vdc	BNL
1 HOUR OF EXPOSURE	28.00v	3.25adc	-5.197vdc	5.157vdc	-14.671vdc	14.701vdc	5.328vdc	10:25 to 11:32
2 HOURS OF EXPOSURE	28.00v	3.25adc	-5.192vdc	5.153vdc	-14.664vdc	14.695vdc	5.322vdc	12:32
3 HOURS OF EXPOSURE	28.00v	3.25adc	-5.188vdc	5.150vdc	-14.658vdc	14.687vdc	5.318vdc	13:32
4 HOURS OF EXPOSURE	28.00v	3.26adc	-5.184vdc	5.146vdc	-14.652vdc	14.681vdc	5.315vdc	14:32
5 HOURS OF EXPOSURE	28.00v	3.28adc	-5.181vdc	5.143vdc	-14.647vdc	14.676vdc	5.309vdc	15:37
5.3 HOURS OF EXPOSURE	28.00v	3.37adc	-5.180vdc	5.142vdc	-14.645vdc	14.674vdc	5.311vdc	15:57
POST EXPOSURE	28.00v	3.37adc	-5.180vdc	5.142vdc	-14.644vdc	14.674vdc	5.311vdc	BNL

Model 3581 with Gamma Radiation Cell

