

## Specifications for Multiplexers

The MEDLI2 team is requesting a quantity of four Aeroflex model ACT8511-7 (Item 1) or equivalent and two model ACT8512-7 (Item 2) or equivalent in accordance with the specifications below. An equivalent is pin for pin compatible, have the same footprint, and provide the same functions listed in the tables below. The prototype equivalent shall also have a flight equivalent that is built by a NASA approved manufacturer, and shall meet the flight requirements listed below.

At this time, NASA does not intend to procure flight parts. But in order to provide a high fidelity prototype design, a path to flight must be demonstrated. All bidders shall be capable of providing adequate documentation with proposal of similar flight heritage. Bidders shall be required to provide documentation that demonstrates their ability to meet the flight requirements column in the tables below.

**Item 1: Aeroflex Model ACT8511-7 or Equivalent; Quantity 4 Ea**

Parameter	Prototype Requirement	Flight Requirement
<b>Functional Requirements</b>		
Mux Channel Count:	64	64
Address Busses:	Two separate four bit buses (A0-3 & B0-3)	Two separate four bit buses (A0-3 & B0-3)
Inputs Protected:	±20V nominal Transorbs	±20V nominal Transorbs
Break-Before-Make Switching:	Internal	Internal
<b>Radiation Performance:</b>		
Total dose:	NA	150 krads(Si), Dose rate = 50 – 300 rads(Si)/s
Single Event Upset:	NA	Immune up to 90 MeV-cm <sup>2</sup> /mg
Single Event Latch:	NA	Immune by process design
<b>Electrical Performance</b>		
Power Consumption:	Less Than 60mW	Less Than 60mW
Access Time:	Less Than 500ns typical	Less Than 500ns typical
Supply Voltage Range”	+20 VDC VCC -20 VDC VEE	+20 VDC VCC -20 VDC VEE
Max Analog Input Over Voltage:	+/-18 Vdc	+/-18 Vdc
Logic Low Level (MAX):	0.8 V	0.8 V
Logic High Level (MIN):	4.0 V	4.0 V
<b>Environmental Performance</b>		
Temperature Range:		(-55C to 125C)
<b>Mechanical Performance</b>		
Packaging:	Hermetic Ceramic	Hermetic Ceramic
Number of Leads:	96	96
SMT Package:	Quad Flat Pack	Quad Flat Pack
Dimensions:	1.32" Sq x 0.20"Ht	1.32" Sq x 0.20"Ht
<b>Qualification Requirements</b>		
DSCC	NA	SMD Required, MIL-PRF-38534, Class K

**Item 2: Aeroflex Model ACT8512-7 or Equivalent; Quantity 2 Ea**

<b>Parameter</b>	<b>Prototype Requirement</b>	<b>Flight Requirement</b>
<b>Functional Requirements</b>		
Mux Channel Count	48	48
Address Busses	One four bit bus (A0-3)	One four bit bus (A0-3)
Inputs Protected	±20V nominal Transorbs	±20V nominal Transorbs
Break-Before-Make switching	Internal	Internal
Kelvin Measurement Capability	All Channels	All Channels
<b>Radiation Performance:</b>		
Total dose:	NA	150 krads(Si), Dose rate = 50 – 300 rads(Si)/s
Single Event Upset:	NA	Immune up to 90 MeV- cm <sup>2</sup> /mg
Single Event Latch:	NA	Immune by process design
<b>Electrical Performance</b>		
power consumption	Less Than 60mW	Less Than 60mW
Access Time	Less Than 500ns typical	Less Than 500ns typical
Supply Voltage Range	+20 VDC VCC -20 VDC VEE	+20 VDC VCC -20 VDC VEE
Max Analog Input Over Voltage	+/-18 Vdc	+/-18 Vdc
Logic Low Level (MIN)	0.8 V	0.8 V
Logic High Level (MAX)	4.0 V	4.0 V
<b>Environmental Performance</b>		
Temperature Range		Full military (-55C to 125C)
<b>Mechanical Performance</b>		
Packaging	Hermetic ceramic	Hermetic ceramic
Number of Leads	96	96
SMT Package	quad flat pack	quad flat pack
Dimensions	1.32"Sq x 0.20"Ht	1.32"Sq x 0.20"Ht
<b>Qualification Requirements</b>		
DSCC	NA	SMD Required, MIL-PRF- 38534, Class K