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LIGO-T040220-B-C

*LIGO*

5 January 2005

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Test Results for C30642 LSC Diode Elements

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LIGO Science Collaboration

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## 1 Introduction

Measurements were taken to quantify series capacitance and series resistance for the C30642 InGaAs, 2mm photodiodes used in the LSC RF Photodetector. Data taken in January of 2003 is included for comparison.

All measurements were taken using an HP4195A and associated Impedance Test Adapter. The data was taken at 24.5 MHz with 7 volts reverse bias applied

## 2 Diodes from LHO and LLO, November 2004

Serial Number	Series Capacitance (pF)	Series Resistance, Ohms
A6578	105	11.9
A6579	105	11.4
A6580	105	11.6
A6581	106	10.8
A6582	105	11.8
A6584	108	10.9
A6585	106	11.3
A6590	105	11.5
A6591	105	11.7
A6592	105	11.6
A6594	107	10.6
A6595	106	11.3
A6596	105	11.4
A6598	107	10.9
A6603	107	10.6
A6604	106	11.5
A6605	107	10.7
A6606	105	11.9
A6607	106	11.1
<b>Average</b>	105.8421053	11.28947368
<b>Std. Dev.</b>	0.932633955	0.420394222

### 3 C30642 Diodes from LHO 10 December 2004

Serial Number	Series Capacitance (pF)	Series Resistance, Ohms
A6721	125.7	14.4
A6722	111.7	12.1
A6723	125.5	14.3
A6725	106.8	12.4
A6714	130.6	13.2
A6713	125.8	13.8
A6712	105.3	11.8
A6711	105.6	11.8
A6719	107	11.1
<b>Average</b>	116	12.76666667
<b>Std. Dev</b>	10.00177762	1.130388331

### 4 C30642 Diodes from CIT measured in January 2003

Serial Number	Series Capacitance (pF)	Series Resistance, Ohms
Cut off	137	7.6
Cut off	138	7.4
Cut off	69	15.4
Cut off	138	7.5
Cut off	138	7.6
Cut off	138	7.4
Cut off	137	7.3
A5890	139	7.5
A5898	139	9.1
A2486	95	11.6
A5897	139	7.4
Cut off	136	8.8
A5910	138	7.6
A5947	137	7.4
<b>Average</b>	129.8571429	8.542857143
<b>Std. Dev</b>	20.16311039	2.209626434

## 5 Diodes from the Wilson House shop measured 5 January 2005

Serial Number	Series Capacitance (pF)	Series Resistance, Ohms
A5437	115	12.7
A5414	118	13.2
A5434	118	12.8
A5412	118	12.5
A5446	118	13.1
A5423	117	13
A5395	117	13.3
A5427	117	13.1
A5418	118	12.7
A5464	115	13.3
A6378	127.8	9.8
A6379	133.7	9.6
A6380	133.7	8.5
A6381	128.7	9.9
A6366	127.7	10
A6367	128.6	9.8
A6368	136	9.5
A6369	132.7	9.3
A6354	131.9	9.3
A6355	133.2	9.7
A6356	131.3	7.4
A6357	131.3	7.8
<b>Average</b>	124.8909091	10.92272727
<b>Std. Dev</b>	7.399072982	1.972523031

## 6 GAP2000 Diodes measured in January 2003. Units have no serial numbers

Capacitance	Resistance
193	9.5
211	8.8
209	9.1
202	8.9

205	8.9
200	9
200	8.6
191	8.4
197	8.5
201	8.9
215	8.7
192	8.4
192	8.5
197	8.5
201	8.9
191	8.5
195	8.4
192	8.2
189	8.3
189	8.3
195	8.5
196	8.5
191	8.4
199	8.5
197	8.7
197	8.5
202	8.7
190	8.4
189	8.3
192	8.4
201	8.6
211	8.9
197	8.5
200	8.9
192	8.5
206	8.7
199	8.9
215	8.7
214	8.6

198	8.8
196	8.8
191	8.6
195	8.7
213	9.2
200	9.3
213	9.1

