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LSC Style Detector Measured Parameters

All transimpedance measurements are referred to plane of the physical output connector and include the effect of the voltage divider created by the 50 Ω termination. All notch rejection ratios are relative to the magnitude of the transimpedance at the respective RF detection center frequency of the given RF output port.

Parameter	Value	
Detector serial number	S1900052	
Detector schematic D# and revision	D1101124-v8 Modified	
Diode element manufacturer's serial number	C30642G	
Quiescent DC current (amps at +18 VDC)	60mA	
Quiescent DC current (amps at -18 VDC)	90mA	
PD bias regulator output voltage (VDC)	+5.04v	
RF opamp positive voltage regulator (VDC)	+5.84v	
RF opamp negative voltage regulator (VDC)	-6.04v	
Audio opamp positive voltage regulator (VDC)	+14.77v	
Audio opamp negative voltage regulator (VDC)	-15.22v	
DC path transimpedance and zero light offset (Ω/mVDC at BNC out)	96Ω	0.096mVDC
DC path transimpedance and zero light offset (Ω/mVDC at differential out)	196Ω	0.196mVDC
DC path zero frequency (Hz)	0.1Hz	
DC path pole frequency (Hz)	2.4Hz	
Inferred DC path shot noise limited input photo sensitivity (mA) at 100Hz measured at differential output	3.7mA	
RF detection center frequency (MHz), f low	6.25MHz	
RF detection center frequency (MHz), f hi		
Notch frequencies (MHz) used in design		
F low feedback notch frequency		

F hi feedback notch frequency		
Rejection (dB) at notch1 (f low)		
Rejection (dB) at notch2 (f low)		
Rejection (dB) at notch3 (f low)		
Rejection (dB) at notch4 (f low)		
Rejection (dB) f low to f hi		
Rejection (dB) at notch1 (f hi)		
Rejection (dB) at notch2 (f hi)		
Rejection (dB) at notch3 (f hi)		
Rejection (dB) at notch4 (f hi)		
Rejection (dB) f hi to f low		
Transimpedance (Ω) at f low (note PD Current)	Based on Q 6.298KΩ	mA
RF dark/light noise used for f low Trans-Z	-128.8dBm/Hz	dBm/Hz
Transimpedance (Ω) at f hi (note PD Current)	Ω	mA
RF dark/light noise used for f hi Trans-Z	dBm/Hz	dBm/Hz
RF preamp used during testing (noise/gain)	dBm/Hz	dB
f low, shot-noise limited input sensitivity (mA)	Calculated 20.8μA/Hz	
f hi, shot-noise limited input sensitivity (mA)		
Test input transconductance at f1(mA/V)		
Test switch isolation at f1 (dB)		
Test input transconductance at f2(mA/V)		
Test switch isolation at f2 (dB)		

For calculations please see document T1900075.