

125-J0011

NOTICE: THE INFORMATION AND DESIGN CONTAINED HEREIN IS THE PROPERTY OF PULSE WHO RESERVES ALL RIGHTS THERETO.

TEST NOTES:  
UNLESS OTHERWISE SPECIFIED, TESTING IS PERFORMED AT 25°C ±5°C.

1. CONNECTIVITY: (100%)

1.1 VERIFY FOLLOWING CONTINUITY:

- PCB (1-4) = PCB (3-5) = 0.40 OHMS MAXIMUM
- PCB (1-2) = PCB (3-6) = 0.80 OHMS MAXIMUM
- CABLE (3-6) = 1.00 OHMS MAXIMUM
- CABLE (4-5) = CABLE (7-8) = 0.30 OHMS MAXIMUM
- CABLE (1-2) = 1.00 OHMS MAXIMUM
- CABLE (1-3) = 140-160 OHMS
- CABLE (2-4) = CABLE (6-7) = 140-160 OHMS MAXIMUM
- CABLE (5-8) = 140-160 OHMS

1.2 VERIFY OPENS (RESISTANCE > 15 MEGOHMS)

- PCB (2) TO PCB (3)
- PCB (6) TO PCB (7)
- PCB (7) TO PCB (8)

1.3 CAPACITANCE - PCB 8 TO CABLE 8  
700 pF MINIMUM AT 1 K, 1 V ON LCR METER.

2. HIPOT: (100%) WITH PCB PINS (1-8) CONNECTED AND CABLE PINS (1-8) CONNECTED, APPLY 2400 VDC FOR 9 SECONDS 2 mA ACROSS PCB PIN 1 AND CABLE PIN 1. USE 1 MEGOHM RESISTOR IN SERIES WITH TEST FIXTURE.

3. INSERTION LOSS: (100%) FIGURE 12  
CALIBRATE THE NETWORK ANALYZER IN THE S21 MODE BY SHORTING (1-1) AND SHORT (2-2) - DO A THRU CALIBRATION. MEASURE THE INSERTION LOSS BETWEEN 100 KHz AND 200 MHz. THE ATTENUATION BE WITHIN THE FOLLOWING LIMITS ON BOTH CHANNELS.

TRANSMIT (1-2)

RECEIVE (3-6)

FREQUENCY	ATTENUATION (S21)
100 KHz	-1.2 dB MAX
5 MHz	-1.0 dB MAX
10 MHz	-1.0 dB MAX
50 MHz	-1.0 dB MAX

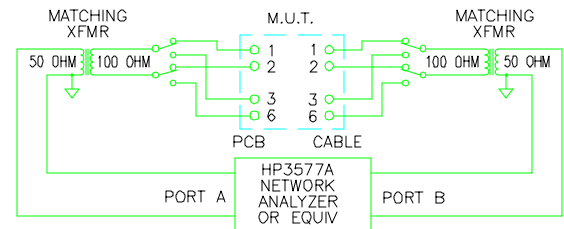
FREQUENCY	ATTENUATION (S21)
100 KHz	-1.2 dB MAX
5 MHz	-1.0 dB MAX
10 MHz	-1.0 dB MAX
50 MHz	-1.0 dB MAX

4. POLARITY: (100%)

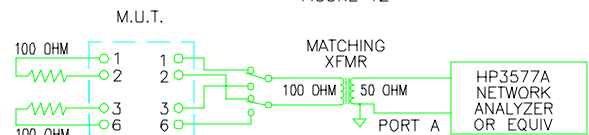
CALIBRATE THE SAME AS IN INSERTION LOSS USING FIGURE 12. PHASE SHALL BE NEGATIVE AND NEAR 0° AT 5 MHz AND APPROACH -90° AT 200 MHz. REVERSED POLARITY IS INDICATED BY +90° PHASE AT 5 MHz.

5. RETURN LOSS: (100%) FIGURE 13  
CALIBRATE THE NETWORK ANALYZER IN THE S11 MODE AND MEASURE THE RETURN LOSS OF BOTH CHANNELS. THE RETURN LOSS SHALL BE WITHIN THE FOLLOWING LIMITS.

FREQUENCY	TRANSMIT/RECEIVE (S11)
5 MHz	-18 dB MIN
10 MHz	-18 dB MIN
30 MHz	-14 dB MIN
60 MHz	-12 dB MIN
80 MHz	-10 dB MIN



INSERTION LOSS TEST CIRCUIT  
FIGURE 12



RETURN LOSS TEST CIRCUIT  
FIGURE 13

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES

DECIMALS ANGLES  
.XX ±.01 ± 1°  
.XXX ±.005

DO NOT SCALE DRAWING

SIZE: CAGE CODE: B01961 DWG. NO.: 125-J0011 REV: 20  
SCALE: NONE CAD FILE: 125-J0011-8 SHEET: 8 OF 10

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TEST NOTES: (CONTINUED)

6. CROSSTALK: (SAMPLE TEST) FIGURE 14  
 CALIBRATE THE NETWORK ANALYZER IN THE S21 MODE BY SHORTING (1-3) AND SHORTING (2-6). DO A THRU CALIBRATION. MEASURE THE CROSSTALK BETWEEN THE TWO CHANNELS OVER THE RANGE OF 1 MHz TO 100 MHz. THE CROSSTALK ATTENUATION SHALL BE WITHIN THE FOLLOWING LIMITS:

FREQUENCY	ATTENUATION (S21)
5 MHz	-40 dB MIN
10 MHz	-40 dB MIN
32 MHz	-35 dB MIN
62 MHz	-35 dB MIN
100 MHz	-30 dB MIN

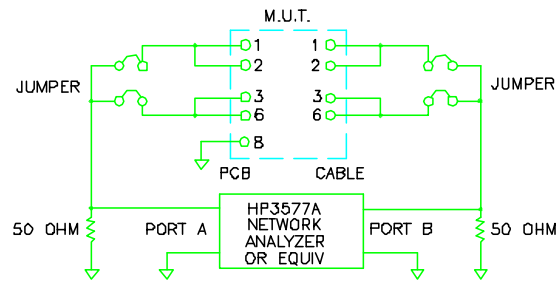
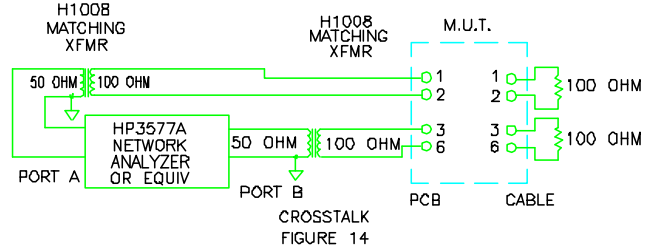
7. COMMON-MODE REJECTION: (SAMPLE) FIGURE 15  
 CALIBRATE THE NETWORK ANALYZER IN THE S21 MODE USING A 50 OHM CABLE BETWEEN PORTS. REMOVE JUMPERS BETWEEN (3-6) CHANNELS. MEASURE COMMON MODE REJECTION. THE REJECTION SHALL BE WITHIN THE FOLLOWING LIMITS ON EACH CHANNEL.

FREQUENCY	TRANSMIT	RECEIVE
5 MHz	30 dB MIN	30 dB MIN
10 MHz	25 dB MIN	25 dB MIN
50 MHz	20 dB MIN	20 dB MIN
100 MHz	20 dB MIN	20 dB MIN
155 MHz	15 dB MIN	15 dB MIN

REMOVE 3-6 JUMPERS REMOVE 1-2 JUMPERS

8. TRP (100 K, 100 mV)  
 PCB (1, 4): PCB (2, 4) = 1:1 ±2%  
 PCB (3, 5): PCB (5, 6) = 1:1 ±2%  
 CABLE (1, 4): CABLE (2, 4) = 1:1 ±2%  
 CABLE (3, 7): CABLE (6, 7) = 1:1 ±2%
9. TRATIO (100 K, 100 mV)  
 CABLE (1, 4): CABLE (2, 4) WITH PCB (1, 2) SHORTED = 1:1 ±2%  
 CABLE (3, 7): CABLE (6, 7) WITH PCB (3, 6) SHORTED = 1:1 ±2%

10. LL (100 K, 100 mV 1 uH MAXIMUM)  
 CABLE (1, 2) WITH PCB (1, 2) SHORTED  
 CABLE (3, 6) WITH PCB (3, 6) SHORTED

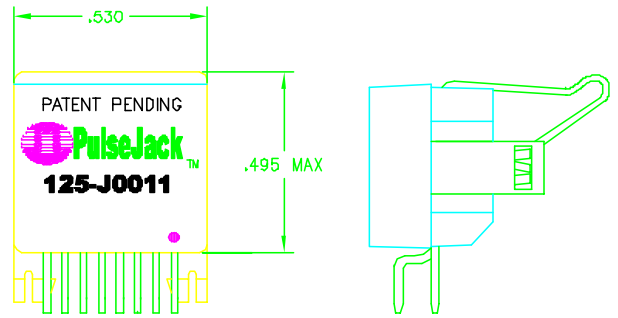
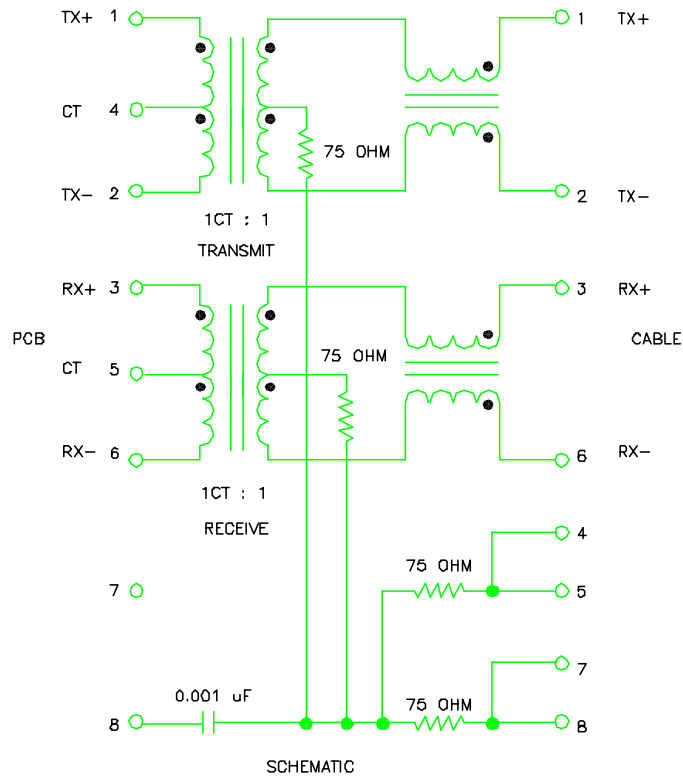


UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES FRACTIONS AND DECIMALS		REV
FORMAS	ANGLES	20
.XX ±.01 ± 1°	B.01961	125-J0011
.XXX ±.005	SCALE NONE	125-J0011-9
DO NOT SCALE DRAWING	SCALE NONE	SHEET 9 OF 10

12-PROB01 REV D 2/78

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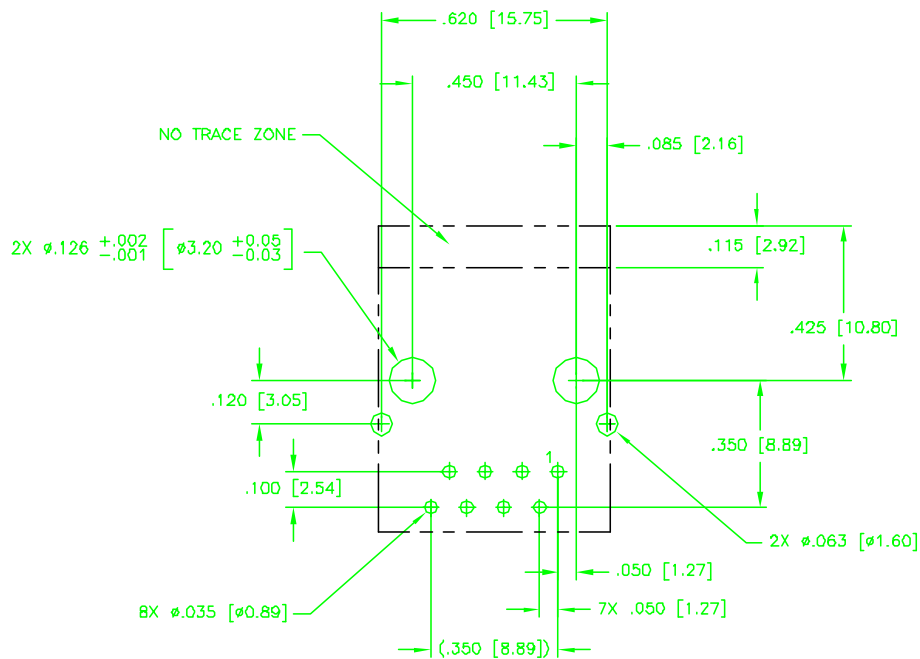
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES, FRACTIONS AND DECIMALS.		SIZE	UNITS	ANGLES	SCALE	DATE CODE	REV. NO.	REV.
.XX	±.01	± 1°					125-J0011	20
.XXX	±.005							
DO NOT SCALE DRAWING		SCALE	NONE	QWID FILE	125-J0011-10	SHEET	10 OF 10	

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PS-2166.001

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SUGGESTED PCB BOARD LAYOUT VIEWED FROM COMPONENT SIDE  
PCB LAYOUT DIMENSIONS TO BE ±.002 UNLESS OTHERWISE SPECIFIED  
SCALE: 4/1

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES  
DECIMALS ± 1/100  
FRACTIONS ± 1/1000  
DO NOT SCALE DRAWING

SIZE	DATE CODE	REV. NO.	PS-2166.001	REV	C
<b>B01961</b>					
SCALE	WOUND FILE		PS-2166.001-3	SHEET	3 OF 3
NONE					

3-PS220 REV D 2/98