
 COMTECH PST <small>Hill Engineering Division</small>	Cage Code:	Title:	Date:	Rev:	Model no:
	02WLO	PRODUCT DATA (subject to change)	6/24/99	N/A	WL4-001

This document describes a high power active receiver protector/limiter. This is a cold switched design i. e; switched while RF is off. Proper bias levels per item no. 9 must be applied for active mode protection.

ITEM NO	CHARACTERISTIC	CONDITIONS	MIN	MAX	UNITS	COMMENTS
1.0	POWER SPECIFICATIONS	IN BAND				
1.1.1	FREQUENCY	At high power	8.5	10.5	GHz	
1.1.2	FREQUENCY	At receive power	8.2	10.7	GHz	
1.1.3	PEAK POWER	Active mode		4500	WATTS	
1.1.4	PULSE WIDTH			50	μS	
1.1.5	DUTY			10	%	
1.1.6	AVERAGE POWER			450	WATTS	
1.1.7	PASSIVE POWER	50 μS max. pulse		120	WATTS	
1.1.8	PRF		1	20	kHz	
1.1.9	NOTE 1: At 1 kHz PRF, the max. pulse width of 50 μS must be maintained.					
1.2	POWER SPECIFICATIONS	GUARD BAND				
1.2.1	FREQUENCY		10.5	11.5	GHz	
1.2.2	PEAK POWER			5	WATTS	
1.2.3	PULSE WIDTH		CW		μS	
1.2.4	DUTY		CW		%	
1.2.5	CW POWER			5	WATTS	
1.3	POWER SPECIFICATIONS	OUT OF BAND				
1.3.1	FREQUENCY		>11.5		GHz	
1.3.2	PEAK POWER			0.003	WATTS	
1.3.3	PULSE WIDTH		CW		μS	
1.3.4	DUTY		CW		%	
1.3.5	CW POWER			0.003	WATTS	
2.0	OPERATING FREQUENCY		8.2	10.7	GHz	
3.0	INSERTION LOSS	LOGIC 1				
3.1.1	HIGH POWER BAND			2.2	dB	
3.1.2	RECEIVE BAND			2.4	dB	
3.1.3	AMPLITUDE FLATNESS		+/- 0.2		dB	

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4.0	LEAKAGE POWER					
4.1.1	FLAT LEAKAGE	Act. Mode Logic 0	150		mW	
4.1.2	FLAT LEAKAGE	Passive mode	200		mW	
4.1.3	SPIKE LEAKAGE	Active mode	0.5		WATTS	
4.1.4	SPIKE LEAKAGE	Passive mode	0.7		WATTS	
4.1.5	SPIKE DURATION		20 ref		nS	
4.1.6	NOTE 2: Spike duration will vary with pulse rise time.					
5.0	PHASE					
5.1.1	MATCHING					NOT SPECIFIED
5.1.2	TRACKING					
5.1.3	8.5 TO 10.5 GHz		+/-5		DEG.	
5.1.4	8.2 TO 8.5 AND 10.5 TO 10.7 GHz		+/-10		DEG	
6.0	VSWR					
6.1.1	SOURCE	Looking to antenna	1.5:1			
6.1.2	LOAD		2.5:1			
7.0	SWITCHING SPECIFICATIONS					
8.0	RECOVERY TIME (SWITCHING)					
8.1.1	To 3.0 dB			750	nS	
8.1.2	To 0.1 dB			1	μS	
8.1.3	PASSIVE RECOVERY			10	μS	
9.0	D.C. POWER					
9.1.1	POSITIVE BIAS VOLTAGE		4.8	5.2	VDC	
9.1.2	NEGATIVE BIAS VOLTAGE			-15	VDC	
9.1.3	POSTIVE BIAS CURRENT			200	mA	
9.1.4	NEGATIVE BIAS CURRENT			50	mA	
9.1.5	NOTE 3: No over-voltage or reverse polarity protection is provided in this switch.					

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ITEM NO	CHARACTERISTIC	CONDITIONS	MIN	MAX	UNITS	COMMENTS
10	CONNECTORS					
10.1.1	RF					WR-90 FLAT FLANGE
10.1.2	DC					DEM-9
11	MECHANICAL					
11.1.1	WEIGHT			2.8	LBS	
11.1.2	OUTLINE					SEE DWG 2737 below
11.1.3	WAVEGUIDE PRESSURE			15	PSIG	
12	ENVIRONMENTAL					
12.1.1	OPERATING TEMPERATURE		-40	+70	°C	
12.1.2	STORAGE TEMPERATURE		-50	+85	°C	
12.1.3	VIBRATION LEVEL					GROUND TRANSPORT

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SEE NOTE 2

REV	DESCRIPTION	DATE	APPROVED
-	INITIAL POLYIMIDE COAT APPLD	4/17/98	J HILL
A	REVISED FOR RCH #1642	11/20/98	J HILL
B	REVISED FOR RCH #087 (#49)	4/1/99	JSH
C	REVISED FOR RCH #2200 (#49)	11/24/94	JCH
D	UPGRADED FOR RCH #2070		

PN	SIGNAL
1	+5VDC
2	-15VDC
3	END
4	TTL
5	N/C
6	DC END
7	TP 2
8	TP 1
9	LOGIC GND

LOGIC	OPERATION
1	INH. LOGIC
0	ISOLATION

COVER FLANGE MATED WITH MW-80

NOTES:
 1. FINISH: CHEMICAL FILM (WW MIL-C-5541E)
 2. MODEL NUMBER
 3. IDENTIFY WITH CONTRASTING MARKING
 4. TOLERANCES: .XX ±.02; .XXX±.010
 5. PINS 7 AND 8 ARE INTERNAL TEST POINTS DO NOT MAKE CONNECTION TO THESE PINS.

REVISED FOR RCH #1642	DATE: 4/17/98	
REVISED FOR RCH #087 (#49)	DATE: 4/1/99	
REVISED FOR RCH #2200 (#49)	DATE: 11/24/94	DUAL LIMITER DUTLINE DWAL LIMITER
UPGRADED FOR RCH #2070	DATE:	
REVISED FOR RCH #2070	DATE:	REV: B MODEL NO: 02WLO DRAWING NO: 2737 SHEET 1 OF 1