

	Cage Code:	Title:	Date:	Rev:	Model no:
	02WLO	<b>PRODUCT DATA</b> <b>(subject to change)</b>	10/7/99	None	<b>M23-001</b>

**This document describes the performance of a high power 1P2T switch. This is a cold switched design i. e; switched while RF is off. Proper bias levels per item no.11 must be applied when operating this device.**

ITEM NO	CHARACTERISTIC	CONDITIONS	MIN	MAX	UNITS	COMMENTS
1	POWER SPECIFICATION	IN BAND				
1.1	FREQUENCY		4.00	8.20	GHz	
1.2	PEAK POWER	ABSOLUTE MAXIMUM	--	200	WATTS	
1.3	PULSE WIDTH		--	10	μS	
1.4	DUTY		--	4	%	
1.5	AVERAGE POWER		--	8	WATTS	
1.6	CW POWER		--	8	WATTS	
2	POWER SPECIFICATION	GUARD BAND				
2.1	FREQUENCY		8.20	8.50	GHz	
2.2	PEAK POWER		--	1	WATT	
2.3	PULSE WIDTH		CW	--	μS	
2.4	DUTY		CW	--	%	
2.5	AVERAGE POWER		--	--	WATT	N/A
2.6	CW POWER		--	1	WATT	
3	POWER SPECIFICATION	OUT OF BAND				
3.1	FREQUENCY		>8.50	--	GHz	
3.2	PEAK POWER		--	30	dBm	
3.3	PULSE WIDTH		CW	--	μS	
3.4	DUTY		CW	--	%	
3.5	AVERAGE POWER		--	--	WATTS	N/A
3.6	CW POWER		--	30	dBm	
4	OPERATING FREQUENCY		4.00	8.20	GHz	
5	INSERTION LOSS					
5.1			--	1.1	dB	
6	ISOLATION					
6.1	INPUT TO OUTPUT		50		dB	
6.2	OUTPUT TO OUTPUT		50		dB	
7	PHASE SPECIFICATION					
7.1	MATCHING		--	--	DEG	NOT SPECIFIED
7.2	PHASE TRACKING		--	--	DEG	NOT SPECIFIED



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8	VSWR					
8.1	INPUT & OUTPUT	SELECTED PORTS	---	1.8:1	--	
8.2	PORTS NOT SELECTED		--	--	--	INFINITY (reflective)
8.3	TERMINATION		---	2.0:1	--	
8.4	SOURCE		---	1.2:1	--	
9	HARMONICS & SPURS					
9.1	INTERNALLY GENERATED		--	--	dBc	NOT SPECIFIED
9.2		MEASURED AT INCIDENT POWER	--	0	dBm	
10	SWITCHING SPECIFICATIONS					
10.1	SWITCHING SPEED	TO 0.5 dB OF I.L.	--	120	nS	
10.2	SWITCHING RATE		--	100	kHz	
10.3	VIDEO LEAKAGE		--	--	Vpp	NOT SPECIFIED
10.4	COMMAND LOGIC TYPE					RS-422
10.5	LOGIC TABLE					SEE DWG 2598
11	D.C. SPECIFICATIONS					
11.1	POSITIVE BIAS VOLTAGE		4.8	5.5	V	
11.2	NEGATIVE BIAS VOLTAGE		-26	-30	V	
11.3	POSITIVE BIAS CURRENT		--	300	mA	
11.4	NEGATIVE BIAS CURRENT		--	40	mA	
11.5	NOTE 1: Power on sequence: To prevent damage to the switch apply the +5V first then the -28V.					
11.6	NOTE 2: No over-voltage or reverse polarity protection is provided in this switch.					
12	CONNECTORS & INTERFACE					
12.1	RF					SMA(F)
12.2	DC					DEM-9P
13	MECHANICAL					
13.1	WEIGHT		--	8	OZ.	
13.2	SIZE		--	--	IN.	SEE DWG 2598
13.3	FINISH		--	--	--	SEE DWG 2598



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14	ENVIRONMENTAL					
14.1	OPERATING TEMPERATURE		-20	+55	°C	
14.2	STORAGE TEMPERATURE		-20	+70	°C	
14.3	VIBRATION LEVEL					GND TRANSPORT
14.4	DEVICE SCREENING	LEVEL 2				SCREENING PER HILL ENGINEERING QUALITY PROCEDURE 121

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
-	INITIAL RELEASE ECN #359	11/20/97	SPL
A	REVISED PER ECN #416	1/26/98	JCH
B	REVISED PER ECN #500	8/24/98	SPL
C	REVISED PER ECN #1124	10/8/99	SPL
D	REVISED PER ECN #1327 (djb)	2/18/2000	SPL
E	REVISED PER ECN #1537 (DL)	6/8/2000	SPL

P1 CONNECTIONS	
PIN	SIGNAL
1	+5V
2	-V
3	GND
4	J2 SENSE (TTL)
5	J3 SENSE (TTL)
6	GND
7	LOGIC + (RS-422)
8	LOGIC - (RS-422)
9	GND

OUTPUT	LOGIC+	LOGIC-	J2 SENSE	J3 SENSE
J1-J2	0	1	1	0
J1-J3	1	0	0	1

**NOTES:**  
 1. FINISH  
 1a. PAINT PER HILL MEI-105  
 1b. PRIMER: ZINC COATING (ZRC) HILL P/N 172-0003  
 1c. PAINT: FLAT BLACK EPOXY ENAMEL, P/N 172-0002  
 1d. HEATSINK/MOUNTING SURFACE SILVER PLATE PER QQ-S-365.  
 2. MARKING  
 2a. MARKING: 0.09" HIGH BLACK CHARACTERS  
 2b. LABEL: METALIZED POLYESTER SHEET P/N 127-0010

PREPARED BY: SP1 LEROUX CHECKED BY: SP1 LEROUX DATE: 11/20/97		DRAWING TITLE: OUTLINE, SPDT, BALANCED LOGIC, SMAF HILL ENGINEERING DIVISION	
MANUFACTURING: J. WARD DATE: 11/20/97		REV: B ONE DATE: 02WLO DRAWING NO: 2598	
CUSTOMER APPROVALS: J. HILL DATE: 11/20/97		REV: E	