

|   |            |   |          |      |                 |
|---|------------|---|----------|------|-----------------|
|  | Cage Code: | Title:  | Date:    | Rev: | Model no:       |
|   | 02WLO      | <b>PRODUCT DATA</b><br><b>(subject to change)</b> | 10/22/99 | N/A  | <b>UH30-021</b> |

**This document describes the performance of a high power 1P3T switch. This is a cold switched design i. e; switched while RF is off. Proper bias per section 11 must be applied before operating this switch.**

| ITEM NO | CHARACTERISTIC       | CONDITIONS  | MIN  | MAX  | UNITS | COMMENTS      |
|---------|----------------------|-------------|------|------|-------|---------------|
| 1       | POWER SPECIFICATION  | IN BAND     |      |      |       |               |
| 1.1     | FREQUENCY            |             | 100  | 500  | MHz   |               |
| 1.2     | PEAK POWER           |             | ---  | 2000 | WATTS |               |
| 1.3     | PULSE WIDTH          |             | ---  | 10   | μS    |               |
| 1.4     | DUTY                 |             | ---  | 6    | %     |               |
| 1.5     | AVG POWER            |             | ---  | 120  | WATTS |               |
| 2       | POWER SPECIFICATIONS | GUARD BAND  |      |      |       |               |
| 2.1     | FREQUENCY            |             | 500  | 550  | MHz   |               |
| 2.2     | PEAK POWER           |             | ---  | 100  | WATTS |               |
| 2.3     | PULSE WIDTH          |             | CW   | ---  | μS    |               |
| 2.4     | DUTY                 |             | CW   | ---  | %     |               |
| 2.5     | AVG POWER            |             | ---  | 100  | WATTS |               |
| 2.6     | CW POWER             |             | ---  | N/A  | WATTS |               |
| 3       | POWER SPECIFICATIONS | OUT OF BAND |      |      |       |               |
| 3.1     | FREQUENCY            |             | >550 |      | MHz   |               |
| 3.2     | PEAK POWER           |             | ---  | 38   | dBm   |               |
| 3.3     | PULSE WIDTH          |             | ---  | 2    | μS    |               |
| 3.4     | DUTY                 |             | ---  | 6    | %     |               |
| 3.5     | AVG POWER            |             | ---  | 28   | dBm   |               |
| 3.6     | CW POWER             |             | ---  | N/A  | WATTS |               |
| 4       | OPERATING FREQUENCY  |             | 150  | 450  | MHz   |               |
| 5       | INSERTION LOSS       |             | ---  | 0.50 | dB    |               |
| 6       | ISOLATION            |             |      |      |       |               |
| 6.1     | INPUT TO OUTPUT      |             | 48   | ---  | dB    |               |
| 6.2     | OUTPUT TO OUTPUT     |             | 48   | ---  | dB    |               |
| 7       | PHASE                |             |      |      |       |               |
| 7.1     | MATCHING             |             |      |      |       | NOT SPECIFIED |
| 7.2     | PHASE TRACKING       |             |      |      |       | NOT SPECIFIED |

Federal Cage Code 02WLO



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**02WLO**

Title:  
**PRODUCT DATA**  
**(subject to change)**

Date:  
**10/22/99**

Rev:  
**N/A**

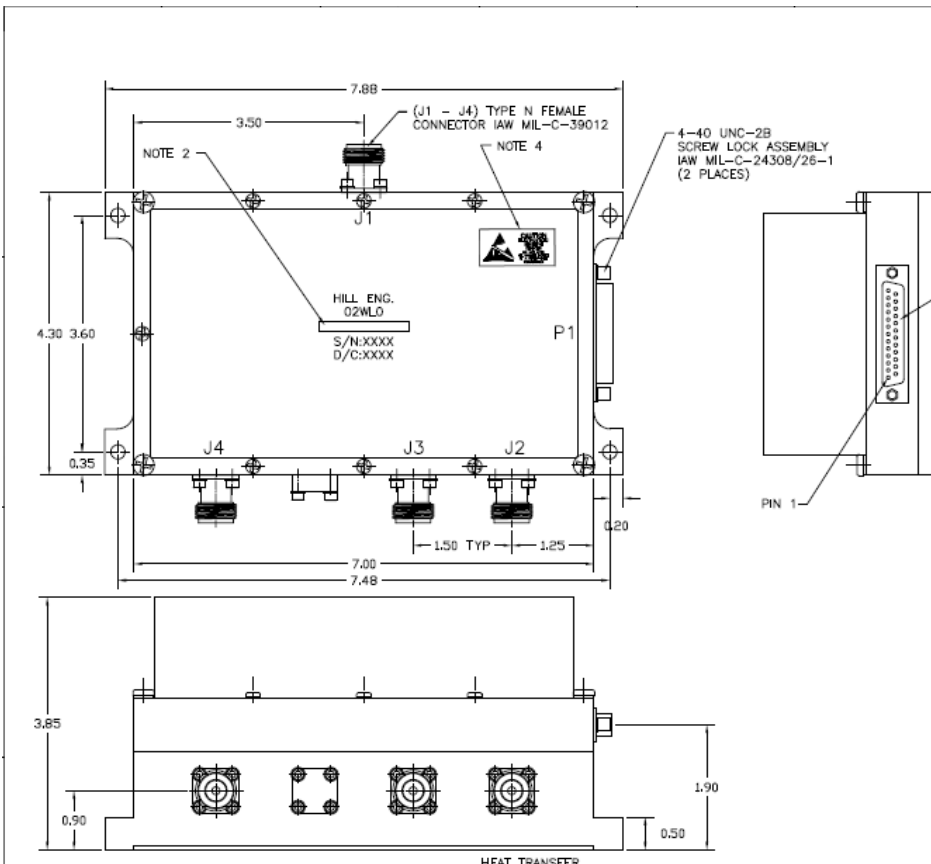
Model no:  
**UH30-021**

| ITEM NO | CHARACTERISTIC   | CONDITIONS        | MIN | MAX   | UNITS | COMMENTS             |
|---------|--|-------------------|-----|-------|-------|----------------------|
| 8       | VSWR   |                   |     |       |       |                      |
| 8.1     | PORTS NOT SELECTED   |                   |     |       |       | INFINITE             |
| 8.2     | LOAD   |                   |     | 2.0:1 |       |                      |
| 8.3     | INPUT  |                   |     | 1.5:1 |       |                      |
| 8.4     | OUTPUT   |                   |     | 1.5:1 |       |                      |
| 9       | HARMONICS & SPURS  |                   |     |       |       |                      |
| 9.1     | INTERNALLY GENERATED   |                   |     |       |       | NOT SPECIFIED        |
| 9.2     | MEASURED AT INCIDENT POWER   |                   |     |       |       | NOT SPECIFIED        |
| 10      | SWITCHING  |                   |     |       |       |                      |
| 10.1    | SPEED  | 50% TTL TO 90% RF | --- | 8     | μS    |                      |
| 10.2    | SWITCHING RATE   |                   |     | 2     | kHz   |                      |
| 10.3    | VIDEO LEAKAGE  |                   |     |       |       | NOT SPECIFIED        |
| 10.4    | COMMAND LOGIC  | TTL               |     |       |       |                      |
| 10.5    | LOGIC TABLE  |                   |     |       |       | SEE DWG 2437 below   |
| 11      | D.C. POWER   |                   |     |       |       |                      |
| 11.1    | POSITIVE 1 BIAS VOLTAGE  |                   | 4.8 | 5.5   | VDC   |                      |
| 11.2    | POSITIVE 2 BIAS VOLTAGE  |                   | 26  | 30    | VDC   |                      |
| 11.3    | NEGATIVE BIAS VOLTAGE  |                   | --- | ---   |       | DEVELOPED INTERNALLY |
| 11.4    | POSITIVE 1 BIAS CURRENT  |                   |     | 1000  | mA    |                      |
| 11.5    | POSITIVE 2 BIAS CURRENT  |                   |     | 2000  | mA    |                      |
| 11.6    | NEGATIVE BIAS CURRENT  |                   | --- | ---   |       | N/A                  |
| 11.7    | POWER ON SEQUENCE: APPLY +5V FIRST, THEN +28V  |                   |     |       |       |                      |
| 11.8    | THIS UNIT DOES NOT HAVE OVER-VOLTAGE OR REVERSE POLARITY PROTECTION ON ANY BIAS PORT |                   |     |       |       |                      |
| 12      | CONNECTORS   |                   |     |       |       |                      |
| 12.1    | RF   |                   |     |       |       | NF                   |
| 12.2    | DC   |                   |     |       |       | DAM-37               |
| 13      | MECHANICAL   |                   |     |       |       |                      |
| 13.1    | WEIGHT   |                   |     | 5.5   | LBS   |                      |
| 13.2    | OUTLINE  |                   |     |       |       | SEE DWG 2437 below   |

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|   | 02WLO      | PRODUCT DATA<br>(subject to change) | 10/22/99 | N/A  | UH30-021  |

| ITEM NO | CHARACTERISTIC        | CONDITIONS | MIN | MAX | UNITS | COMMENTS                     |
|---------|-----------------------|------------|-----|-----|-------|------------------------------|
| 14      | ENVIRONMENTAL         |            |     |     |       |                              |
| 14.1    | OPERATING TEMPERATURE |            | -20 | +60 | °C    |                              |
| 14.2    | STORAGE TEMPERATURE   |            | -40 | +75 | °C    |                              |
| 14.3    | VIBRATION LEVEL       |            |     |     |       | AIRBORNE INHABITED, SUBSONIC |
| 14.4    | DEVICE SCREENING      | LEVEL 2    |     |     |       | QP-121 LEVEL 2               |



| REVISIONS |     |                          |         |          |
|-----------|-----|--------------------------|---------|----------|
| ZONE      | REV | DESCRIPTION              | DATE    | APPROVED |
| -         | -   | INITIAL RELEASE EOH #229 | 4/16/97 | J HLL    |
| A         | A   | REVISED PER EOH #307     | 8/12/97 | J WARD   |
| B         | B   | REVISED PER EOH #309     | 8/27/97 | J HLL    |
| C         | C   | REVISED PER EOH #403     | 1/22/98 | J HLL    |
| D         | D   | REVISED PER EOH #4257    | 8/8/97  | SPL      |
| E         | E   | REVISED PER EOH #4283    | 10/8/98 | CTN      |

| CONNECTOR P1 PIN ASSIGNMENT |                     |       |                  |
|-----------------------------|---------------------|-------|------------------|
| PIN #                       | DESCRIPTION         | PIN # | DESCRIPTION      |
| 1                           | +5VDC               | 14    | N/C              |
| 2                           | +5VDC               | 15    | +5VDC RETURN     |
| 3                           | +5VDC RETURN        | 16    | N/C              |
| 4                           | N/C                 | 17    | 28VDC RETURN     |
| 5                           | 28VDC               | 18    | N/C              |
| 6                           | N/C                 | 19    | N/C              |
| 7                           | TTL BIT 0           | 20    | TTL BIT 0 RETURN |
| 8                           | N/C                 | 21    | TTL BIT 1        |
| 9                           | TTL BIT 1 RETURN    | 22    | N/C              |
| 10                          | STATUS BIT 4        | 23    | STATUS RETURN    |
| 11                          | STATUS BIT -        | 24    | N/C              |
| 12                          | POSITION IND. BIT 0 | 25    | N/C              |
| 13                          | POSITION IND. BIT 1 |       |                  |

| PORT SELECTION |       |       |          |           |        |       |
|----------------|-------|-------|----------|-----------|--------|-------|
| SELECTED       | TTL   | TTL   | POSITION | INDICATOR | STATUS |       |
| PATH           | BIT 0 | BIT 1 | BIT 0    | BIT 1     | BIT 4  | BIT - |
| J1-J2          | 0     | 0     | 0        | 0         | 0      | 1 1 0 |
| J1-J3          | 1     | 0     | 1        | 0         | 0      | 1 1 0 |
| J1-J4          | 0     | 1     | 0        | 1         | 1      | 1 0   |
| FAULT          | X     | X     | 0        | 0         | 0      | 0 1   |

NOTES:

- FINISH
  - PAINT PER PROCEDURE ME-105.
  - PRIMER: ZRC ZINC PRIMER HILL ENGINEERING P/N 172-0003
  - PAINT: FLAT BLACK EPOXY ENAMEL HILL ENGINEERING P/N 172-0002
- MODEL #.
- IDENTIFY IAW MIL-STD-130
- LOCATE ESD SYMBOL APPROXIMATELY AS SHOWN.

|             |         |             |
|-------------|---------|-------------|
| APPROVED    | DATE    | BY          |
| [Signature] | 5/16/97 | [Signature] |
| DESIGNED    | DATE    | BY          |
| [Signature] | 4/24/97 | [Signature] |
| CHECKED     | DATE    | BY          |
| [Signature] | 8/23/97 | [Signature] |
| IN CHARGE   | DATE    | BY          |
| [Signature] | 4/24/97 | [Signature] |

|          |      |     |     |
|----------|------|-----|-----|
| DATE     | SIZE | QTY | REV |
| 10/22/99 | 1/1  | 1   | 1   |

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