



The **D1 Series** features SMA connectors and a frequency range of DC to 22 GHz.

This series is available with fail-safe, latching self cut-off, or pulse latching functions.

| | |
|----------------------------|--|
| RF Impedance: | 50 ohms nominal |
| Temperature Range: | -35°C to +85°C ambient |
| Operating Life: | 1,000,000 cycles min. |
| Switching Time: | 15 mSec max. |
| Switching Sequence: | Break Before Make |
| Environmental: | Designed in Accordance to MIL-DTL-3928 (Testing and Operation Modes) |

SPECIFICATIONS

| Frequency | VSWR (max.) | Insertion Loss (dB max.) | Isolation (dB min.) |
|-------------|-------------|--------------------------|---------------------|
| DC-3 GHz | 1.20 | 0.20 | 80 |
| 3-8 GHz | 1.30 | 0.30 | 70 |
| 8-12.4 GHz | 1.40 | 0.40 | 60 |
| 12.4-18 GHz | 1.50 | 0.50 | 60 |
| 18-22 GHz | 1.60 | 0.60 | 55 |

| Actuator Current (typical) | 12Vdc | 12-15 Vdc | 20-24 Vdc | 24-30Vdc |
|----------------------------|-------|-----------|-----------|----------|
| Fail-safe | 240mA | 240mA | 170mA | 140mA |
| Latching | 140mA | 140mA | 90mA | 90mA |

* If reduced coil current is required, please contact Factory.

AVAILABLE OPTIONS

| OPTION 2 RF CONNECTORS | OPTION 4 VOLTAGE | OPTION 5 ACTUATOR | OPTION 6 FREQUENCY | OPTION 8 SPECIAL OPTIONS |
|--|--|---|---|---|
| 4 - SMA | 1 - 6 Vdc +/- 10% 2 - 12 Vdc +/- 10% 3 - 24-30 Vdc 4 - 48 Vdc +/- 10% 5 - 110 Vac +/- 10% 6 - 12-15 Vdc 7 - 18-20 Vdc 8 - 20-24 Vdc | Fail-Safe A - Standard B - Indicators M - Diodes Q - Diodes, Indicators Latching Self Cut-Off D - Diodes E - Diodes, Indicators Pulse Latching C - Standard F - Indicators Y - Diodes L - Diodes, Indicators Normally Open K - Standard H - Indicators J - Diodes G - Diodes, Indicators | 5 - DC to 22 GHz OPTION 7 POLARITY 0 - Not Applicable 8 - Positive Common 9 - Negative Common | L - TTL (High) LL - TTL (Low) P - High Power Handling |
| OPTION 3 TERMINALS | | | | |
| 1 - Solder Terminals 4 - Sub M iniature D-Shell Connector | | | | |

D1

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4

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Option 1
Series

Option 2
RF Connectors

Option 3
Terminals

Option 4
Voltage

Option 5
Actuator

Option 6
Frequency

Option 7
Polarity

Option 8
Special
Options

DC TERMINAL FUNCTION

| | FAILSAFE | | | | | | | | LATCHING | | | | NORMALLY OPEN | | | | | | | |
|-----|----------|-----|----------------|-----|-----|----------------|--------|----------------|----------|-------------|--------|-------------|---------------|----------------|--------|-----|----------------|--------|-----|----------------|
| PIN | A | M | A, M w/ TTL | B | Q | B, Q w/ TTL | C, Y | C, Y w/ TTL | D | D w/ TTL | E | E w/ TTL | F, L | F, L w/ TTL | J | K | J, K w/ TTL | G | H | G, H w/ TTL |
| 1 | N/A | N/A | 2 | 2 | 2 | 2 | 2-/+ | N/A | 2-/+ | N/A | 2 | 2 | 2 | 2 | 2-/+ | 2 | N/A | 2 | 2 | 2 |
| 2 | N/A | N/A | -B | 1 | 1 | 1 | 1-/+ | 2 | 1-/+ | 2 | 1 | 1 | 1 | 1 | 1-/+ | 1 | 2 | 1 | 1 | 1 |
| 3 | N/A | N/A | +A | COM | COM | COM | COM+/- | -B | COM+/- | -B | COM | COM | COM | COM | COM+/- | COM | -B | COM | COM | COM |
| 4 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2 | N/A | 2 | N/A | N/A | N/A | N/A | N/A | 2 |
| 5 | N/A | N/A | N/A | N/A | N/A | 2 | N/A | N/A | N/A | N/A | 2-/+ | 1 | 2-/+ | 1 | N/A | N/A | N/A | 2-/+ | 2 | 1 |
| 6 | N/A | N/A | N/A | 2 | -2 | -B | N/A | 1 | N/A | 1 | 1-/+ | -B | 1-/+ | -B | N/A | N/A | 1 | 1-/+ | 1 | -B |
| 7 | N/A | N/A | N/A | 1 | +1 | +A | N/A | +A | N/A | +A | COM+/- | +A | COM+/- | +A | N/A | N/A | +A | COM+/- | COM | +A |
| 8 | 1 | +1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| 9 | 2 | -2 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

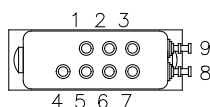
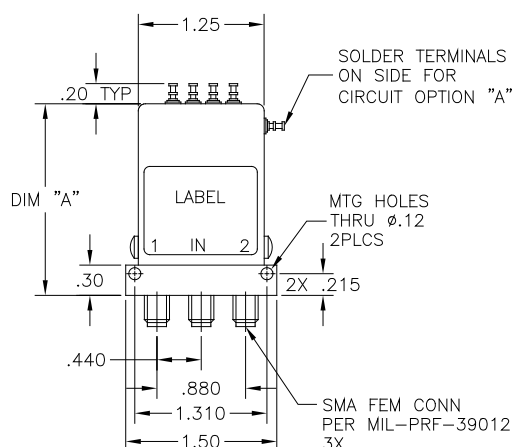
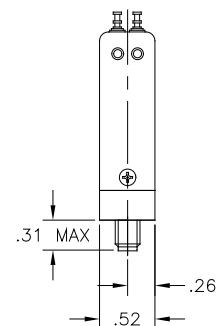
SCHEMATICS

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| FIG. | 3 | 3 | 4 | 3 | 3 | 4 | 15 | 16 | 9 | 10 | 9 | 10 | 15 | 16 | 21 | 21 | 22 | 21 | 21 | 22 |
|------|---|---|---|---|---|---|----|----|---|----|---|----|----|----|----|----|----|----|----|----|
|------|---|---|---|---|---|---|----|----|---|----|---|----|----|----|----|----|----|----|----|----|

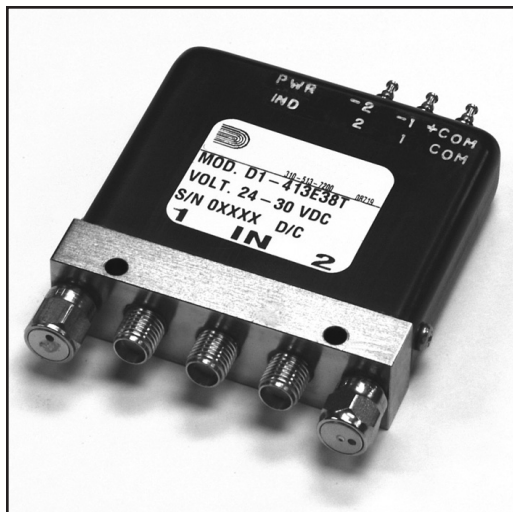
OUTLINE DRAWING DIMENSION "A"

| | | | | | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.38" | 1.38" | 1.38" | 1.68" | 1.68" | 1.68" | 1.38" | 1.88" | 1.58" | 1.88" | 1.58" | 1.88" | 1.58" | 1.88" | 1.68" | 1.68" | 1.88" | 1.68" | 1.68" | 1.88" |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

TOP VIEW

FRONT VIEW

SIDE VIEW


D1 SERIES
SPDT 50 OHM
TERMINATED SWITCH
DC-22 GHz ◆ **SMA**

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This series is available with fail-safe, latching self cut-off or pulse latching functions.

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| 18-22 GHz | 1.60 | 0.60 | 55 |

| Actuator Current (typical) | 12Vdc | 12-15 Vdc | 20-24 Vdc | 24-30Vdc |
|----------------------------|-------|-----------|-----------|----------|
| Fail-safe | 480mA | 600mA | 400mA | 280mA |
| Latching | 282mA | 353mA | 218mA | 175mA |

* If reduced coil current is required, please contact Factory.

AVAILABLE OPTIONS

| OPTION 2 RF CONNECTORS | OPTION 4 VOLTAGE | OPTION 5 ACTUATOR | OPTION 6 FREQUENCY | OPTION 8 SPECIAL OPTIONS |
|---|--|---|--|---|
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| OPTION 3 TERMINALS 1 - Solder Terminals 4 - Sub M miniature D-Shell Connector | | | | |

D1

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Option 1
Series

Option 2
RF Connectors

Option 3
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Option 4
Voltage

Option 5
Actuator

Option 6
Frequency

Option 7
Polarity

Option 8
Special
Options

DC TERMINAL FUNCTION

| PIN | FAILSAFE | | | | | | | | LATCHING | | | | | | | | NORMALLY OPEN | | | |
|-----|----------|-----|----------------|-----|-----|----------------|--------|----------------|----------|-------------|--------|-------------|--------|----------------|--------|-----|----------------|--------|-----|----------------|
| | A | M | A, M w/ TTL | B | Q | B, Q w/ TTL | C, Y | C, Y w/ TTL | D | D w/ TTL | E | E w/ TTL | F, L | F, L w/ TTL | J | K | J, K w/ TTL | G | H | G, H w/ TTL |
| 1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 2 | N/A | 2 | N/A | 2 | N/A | 2 | N/A | N/A | 2 | N/A | N/A | 2 |
| 2 | N/A | N/A | 2 | 2 | 2 | 2 | 2-/+ | 1 | 2-/+ | 1 | 2-/+ | 1 | 2-/+ | 1 | 2-/+ | 2 | 1 | 2-/+ | 2 | 1 |
| 3 | 1 | +1 | -B | 1 | 1 | -B | 1-/+ | -B | 1-/+ | -B | 1-/+ | -B | 1-/+ | -B | 1-/+ | 1 | -B | 1-/+ | 1 | -B |
| 4 | 2 | -2 | +A | COM | COM | +A | COM+/- | +A | COM+/- | +A | COM+/- | +A | COM+/- | +A | COM+/- | COM | +A | COM+/- | COM | +A |
| 5 | N/A | N/A | N/A | N/A | N/A | 2 | N/A | N/A | N/A | N/A | 2 | 2 | 2 | 2 | N/A | N/A | N/A | 2 | 2 | 2 |
| 6 | N/A | N/A | N/A | 2 | -2 | 1 | N/A | N/A | N/A | N/A | 1 | 1 | 1 | 1 | N/A | N/A | N/A | 1 | 1 | 1 |
| 7 | N/A | N/A | N/A | 1 | +1 | COM | N/A | N/A | N/A | N/A | COM | COM | COM | COM | N/A | N/A | N/A | COM | COM | COM |

SCHEMATICS

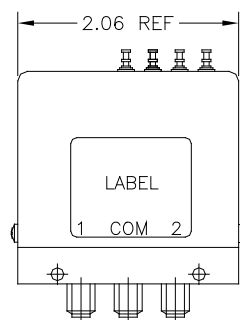
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| FIG. | 5 | 5 | 6 | 5 | 5 | 6 | 17 | 18 | 11 | 12 | 11 | 12 | 17 | 18 | 23 | 23 | 24 | 23 | 23 | 24 |
|------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

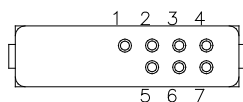
OUTLINE DRAWING DIMENSION "A"

| | | | | | | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" | 1.98" |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

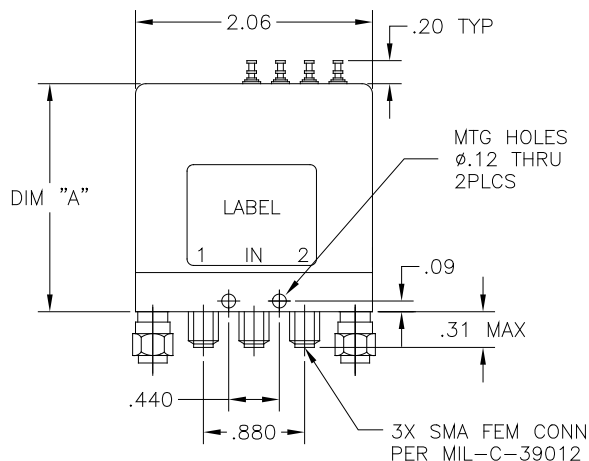
FRONT VIEW Internal Terminations



TOP VIEW



FRONT VIEW External Terminations



SIDE VIEW

