

# Broad Selection of Ready-to-Ship PIN Diode Switches

Pasternack's line of 50 ohm PIN diode switches offers designers a comprehensive model selection with broadband frequency coverage up to 100 GHz, SPST through SP12T configurations, and absorptive and reflective design options. All models offer leading-edge performance with low insertion loss, high isolation levels, and fast switching speeds, and are available in compact coaxial packages, most with field replaceable SMA connectors. Select millimeter-wave designs are offered in waveguide package outlines. These rugged designs are highly reliable and intended to meet a series of military standard environmental test conditions.

#### **PIN Diode Switches**

| SPST                          |            |
|-------------------------------|------------|
| SPDT                          |            |
| SP3T                          |            |
| SP4T                          | <u></u>    |
| SP5T                          | <u>10</u>  |
| SP6T                          | <u>10</u>  |
| SP8T                          | <u>10</u>  |
| SP12T                         | <u>1</u> 1 |
| Transfer                      | <u>1</u> 1 |
| High Isolation                | <u>1</u> 2 |
| High Isolation USB Controlled | <u>1</u> 2 |
| Waveguide PIN Diode Switches  | <u>13</u>  |
| Digital TTL Control Modules   | <u>13</u>  |











### PIN Diode Switches

#### **SPST**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type | Field<br>Replaceable | Mechanical Dimensions L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------|----------------------|---|-------|
| PE71S6230 | Absorptive    | 10 MHz - 1         | 80                           | 1.3                               | 200                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S2008 | Absorptive    | 50 MHz - 26.5      | 30                           | 5                                 | 150                               | 0.5                                   | Solder Pin     | SMA Female        | No                   | 1.2 x 1.2 x 0.6                             | EAR99 |
| PE71S2012 | Absorptive    | 50 MHz - 40        | 25                           | 7.5                               | 150                               | 1                                     | Solder Pin     | 2.92mm<br>Female  | No                   | 1.2 x 1.2 x 0.6                             | EAR99 |
| PE71S2024 | Absorptive    | 50 MHz - 67        | 25                           | 9.5                               | 150                               | 0.5                                   | Solder Pin     | 1.85mm<br>Female  | No                   | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6209 | Absorptive    | 500 MHz - 18       | 55                           | 3.5                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.2 x 0.9 x 0.35                            | EAR99 |
| PE71S6214 | Absorptive    | 500 MHz - 40       | 55                           | 5.5                               | 100                               | 0.1                                   | Solder Pin     | 2.92mm<br>Female  | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6231 | Absorptive    | 1 - 2              | 80                           | 0.9                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6236 | Absorptive    | 1 - 18             | 65                           | 3                                 | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6232 | Absorptive    | 2 - 4              | 75                           | 1.1                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S2016 | Absorptive    | 2 - 26.5           | 25                           | 4.5                               | 150                               | 1                                     | Solder Pin     | SMA Female        | No                   | 1.2 x 1.2 x 0.6                             | EAR99 |
| PE71S2020 | Absorptive    | 2 - 40             | 30                           | 5                                 | 150                               | 1                                     | Solder Pin     | 2.92mm<br>Female  | No                   | 1.2 x 1.2 x 0.6                             | EAR99 |
| PE71S6233 | Absorptive    | 4 - 8              | 75                           | 1.8                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6234 | Absorptive    | 8 - 12             | 70                           | 1.8                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6235 | Absorptive    | 12 - 18            | 65                           | 2.8                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6258 | Reflective    | 10 MHz - 1         | 80                           | 1                                 | 200                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |

#### **SPST Continued**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type | Field<br>Replaceable | Mechanical Dimensions L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------|----------------------|---|-------|
| PE71S2007 | Reflective    | 50 MHz - 26.5      | 20                           | 5                                 | 150                               | 1                                     | Solder Pin     | SMA Female        | No                   | 1.2 x 1.2 x 0.6                             | EAR99 |
| PE71S2011 | Reflective    | 50 MHz - 40        | 25                           | 6.5                               | 150                               | 1                                     | Solder Pin     | 2.92mm<br>Female  | No                   | 1.2 x 1.2 x 0.6                             | EAR99 |
| PE71S2023 | Reflective    | 50 MHz - 67        | 20                           | 8.5                               | 150                               | 0.5                                   | Solder Pin     | 1.85mm<br>Female  | No                   | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6220 | Reflective    | 500 MHz - 18       | 55                           | 3                                 | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.2 x 0.9 x 0.35                            | EAR99 |
| PE71S6225 | Reflective    | 500 MHz - 40       | 55                           | 5                                 | 100                               | 0.1                                   | Solder Pin     | 2.92mm<br>Female  | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6259 | Reflective    | 1 - 2              | 80                           | 0.75                              | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6264 | Reflective    | 1 - 18             | 65                           | 2.5                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6260 | Reflective    | 2 - 4              | 75                           | 0.85                              | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S2015 | Reflective    | 2 - 26.5           | 20                           | 4.5                               | 150                               | 1                                     | Solder Pin     | SMA Female        | No                   | 1.2 x 1.5 x 0.6                             | EAR99 |
| PE71S2019 | Reflective    | 2 - 40             | 20                           | 4                                 | 150                               | 1                                     | Solder Pin     | 2.92mm<br>Female  | No                   | 1.2 x 1.2 x 0.6                             | EAR99 |
| PE71S6261 | Reflective    | 4 - 8              | 75                           | 1.5                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6262 | Reflective    | 8 - 12             | 70                           | 1.8                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6263 | Reflective    | 12 - 18            | 65                           | 2.5                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.5                                 | EAR99 |



#### **SPDT**

| PE P/N    | Switch Design | Frequency<br>(GHz)   | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control   | Connector<br>Type | Field<br>Replaceable | Mechanical Dimensions L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|----------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|------------------|-------------------|----------------------|---|-------|
| PE71S8007 |               | 10 MHz - 1           | 40                           | 0.75                              | 40,000                            |                                       | Solder Pin       | SMA Female        | No                   |   | EAR99 |
| ननन       |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S8004 |               | 100 MHz - 500<br>MHz | 55                           | 0.5                               | 40,000                            |                                       | Solder Pin       | N Female          | No                   |   | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S8008 |               | 500 MHz - 3          | 55                           | 1.25                              | 10,000                            |                                       | Solder Pin       | SMA Female        | No                   |   | EAR99 |
| PE71S8006 |               | 800 MHz - 3          |                              |                                   |                                   |                                       | Solder Pin       | SMA Female        | No                   |   | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S8005 |               | 960 MHz - 1.3        | 40                           | 0.75                              | 10,000                            |                                       | Solder Pin       | N Female          | No                   |   | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S2043 | Absorptive    | 5 MHz - 2.15         | 70                           | 2.5                               | 100,000                           | 0.1                                   | D-Sub            | F Female          | No                   | 2 x 2 x 1.19                                | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S2036 | Absorptive    | 5 MHz - 3            | 80                           | 3.5                               | 10,000                            | 1                                     | D-Sub            | SMA Female        | No                   | 2 x 2 x 1.19                                | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S6237 | Absorptive    | 10 MHz - 1           | 80                           | 1.3                               | 200                               | 0.1                                   | Solder Pin       | SMA Female        | Yes                  | 1 x 1 x 0.4                                 | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S2035 | Absorptive    | 20 MHz - 4.3         | 80                           | 3                                 | 10,000                            | 1                                     | D-Sub            | SMA Female        | No                   | 2 x 2 x 1.19                                | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S8009 | Absorptive    | 20 MHz - 6           | 55                           | 2.5                               |                                   |                                       | Solder Pin       | SMA Female        | No                   |   | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S2010 | Absorptive    | 70 MHz - 26.5        | 55                           | 5                                 | 100                               | 0.5                                   | SMA Female       | SMA Female        | No                   | 1 x 1.2 x 0.6                               | EAR99 |
| 30 6      |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S2014 | Absorptive    | 70 MHz - 40          | 55                           | 7                                 | 100                               | 0.5                                   | 2.92mm<br>Female | 2.92mm<br>Female  | No                   | 1 x 1.2 x 0.6                               | EAR99 |
| 300       |               |                      |                              |                                   |                                   |                                       | I emale          | Terriale          |                      |   |       |
| PE71S2050 | Absorptive    | 100 MHz - 67         | 40                           | 10.5                              | 100                               | 0.5                                   | SMA Female       | 1.85mm            | No                   | 1.2 x 1 x 0.5                               | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  | Female            |                      |   |       |
| PE71S6210 | Absorptive    | 500 MHz - 18         | 55                           | 3.75                              | 100                               | 0.1                                   | Solder Pin       | SMA Female        | Yes                  | 1.2 x 0.9 x 0.35                            | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  |                   |                      |   |       |
| PE71S6215 | Absorptive    | 500 MHz - 40         | 60                           | 6                                 | 50                                | 0.1                                   | Solder Pin       | 2.92mm<br>Female  | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
|           |               |                      |                              |                                   |                                   |                                       |                  | Timaid            |                      |   |       |

#### **SPDT Continued**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type | Field<br>Replaceable | Mechanical Dimensions L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------|----------------------|---|-------|
| PE71S2041 | Absorptive    | 800 MHz - 2.7      | 75                           | 0.8                               | 10,000                            | 100                                   | Solder Pin     | SMA Female        | No                   | 3 x 2.75 x 1                                | EAR99 |
| ana       |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S6241 | Absorptive    | 1 - 18             | 65                           | 3.5                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.4                                 | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S6208 | Absorptive    | 2 - 4              | 75                           | 1.2                               | 100                               | 0.5                                   | Pin            | SMA Female        | Yes                  | 1.2 x 0.9 x 0.35                            | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S2018 | Absorptive    | 2 - 26.5           | 60                           | 4                                 | 100                               | 0.5                                   | SMA Female     | SMA Female        | No                   | 1 x 1.2 x 0.6                               | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S2022 | Absorptive    | 2 - 40             | 55                           | 5.5                               | 100                               | 0.5                                   | 2.92mm         | 2.92mm            | No                   | 1 x 1.2 x 0.6                               | EAR99 |
| 370 455   |               |                    |                              |                                   |                                   |                                       | Female         | Female            |                      |   |       |
| PE71S6238 | Absorptive    | 4 - 8              | 70                           | 1.9                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.4                                 | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S6239 | Absorptive    | 8 - 12             | 70                           | 2.2                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.4                                 | EAR99 |
| a a       |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S6240 | Absorptive    | 12 - 18            | 70                           | 3.5                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.4                                 | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S1100 | Reflective    | DC - 6             | 25                           | 1.3                               | 100                               | 40                                    |                | SMA Female        | No                   | 0 x 0 x 0                                   | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S1105 | Reflective    | DC - 6             | 25                           | 1.3                               | 100                               | 40                                    |                | SMA Female        | No                   | 0 x 0 x 0                                   | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S1101 | Reflective    | DC - 12            | 25                           | 2                                 | 150                               | 25                                    |                | SMA Female        | No                   | 0 x 0 x 0                                   | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S1106 | Reflective    | DC - 12            | 25                           | 2                                 | 150                               | 25                                    |                | SMA Female        | No                   | 0 x 0 x 0                                   | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S1102 | Reflective    | DC - 18            | 23                           | 2.3                               | 100                               | 10                                    |                | SMA Female        | No                   | 0 x 0 x 0                                   | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S1107 | Reflective    | DC - 18            | 23                           | 2.3                               | 100                               | 10                                    |                | SMA Female        | No                   | 0 x 0 x 0                                   | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |
| PE71S6265 | Reflective    | 10 MHz - 1         | 80                           | 1.1                               | 200                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1 x 1 x 0.4                                 | EAR99 |
|           |               |                    |                              |                                   |                                   |                                       |                |                   |                      |   |       |



#### **SPDT Continued**

| PE P/N    | Switch Design | Frequency<br>(GHz)   | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control   | Connector<br>Type | Field<br>Replaceable | Mechanical Dimensions L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|----------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|------------------|-------------------|----------------------|---|-------|
| PE71S2039 | Reflective    | 20 MHz - 500 MHz     | 50                           | 0.5                               | 40,000                            | 150                                   | Solder Pin       | SMA Female        | No                   | 3 x 2.75 x 1                                | EAR99 |
| PE71S2040 | Reflective    | 20 MHz - 1           | 40                           | 0.75                              | 40,000                            | 150                                   | Solder Pin       | SMA Female        | No                   | 3 x 2.75 x 1                                | EAR99 |
| PE71S2042 | Reflective    | 20 MHz - 2.5         | 50                           | 1                                 | 10,000                            | 25                                    | Solder Pin       | SMA Female        | No                   | 3 x 2.75 x 1                                | EAR99 |
| PE71S2047 | Reflective    | 30 MHz - 530 MHz     | 60                           | 1                                 | 200                               | 5                                     | Solder Pin       | SMA Female        | No                   | 1.25 x 1.25 x 0.563                         | EAR99 |
| PE71S2048 | Reflective    | 50 MHz - 1.5         | 60                           | 1                                 | 200                               | 4                                     | Solder Pin       | SMA Female        | No                   | 1.25 x 1.25 x 0.563                         | EAR99 |
| PE71S2009 | Reflective    | 70 MHz - 26.5        | 30                           | 3.5                               | 100                               | 0.5                                   | SMA Female       | SMA Female        | No                   | 1 x 1.2 x 0.6                               | EAR99 |
| PE71S2013 | Reflective    | 70 MHz - 40          | 30                           | 5.5                               | 100                               | 0.5                                   | 2.92mm<br>Female | 2.92mm<br>Female  | No                   | 1 x 1.2 x 0.6                               | EAR99 |
| PE71S2038 | Reflective    | 100 MHz - 500<br>MHz | 55                           | 0.5                               | 40,000                            | 250                                   | Solder Pin       | SMA Female        | No                   | 3 x 2.75 x 1                                | EAR99 |
| PE71S1103 | Reflective    | 500 MHz - 6          | 35                           | 1.5                               | 250                               | 100                                   |                  | N Female          | No                   | 0 x 0 x 0                                   | EAR99 |
| PE71S1108 | Reflective    | 500 MHz - 6          | 35                           | 1.5                               | 250                               | 100                                   |                  | N Female          | No                   | 0 x 0 x 0                                   | EAR99 |
| PE71S6221 | Reflective    | 500 MHz - 18         | 55                           | 3.2                               | 100                               | 0.1                                   | Solder Pin       | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                             | EAR99 |
| PE71S6226 | Reflective    | 500 MHz - 40         | 55                           | 5.5                               | 50                                | 0.1                                   | Solder Pin       | 2.92mm<br>Female  | Yes                  | 1 x 1 x 0.5                                 | EAR99 |
| PE71S6269 | Reflective    | 1 - 18               | 65                           | 2.5                               | 100                               | 0.1                                   | Solder Pin       | SMA Female        | Yes                  | 1 x 1 x 0.4                                 | EAR99 |
| PE71S6219 | Reflective    | 2 - 4                | 75                           | 0.9                               | 100                               | 1                                     | Solder Pin       | SMA Female        | Yes                  | 1.2 x 0.9 x 0.35                            | EAR99 |
| PE71S2017 | Reflective    | 2 - 26.5             | 30                           | 3                                 | 100                               | 1                                     | SMA Female       | SMA Female        | No                   | 1 x 1.2 x 0.6                               | EAR99 |

#### **SPDT Continued**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control   | Connector<br>Type |     | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|------------------|-------------------|-----|---|-------|
| PE71S2021 | Reflective    | 2 - 40             | 30                           | 4                                 | 100                               | 0.5                                   | 2.92mm<br>Female | 2.92mm<br>Female  | No  | 1 x 1.2 x 0.6                                     | EAR99 |
| PE71S6266 | Reflective    | 4 - 8              | 70                           | 1.6                               | 100                               | 0.1                                   | Solder Pin       | SMA Female        | Yes | 1 x 1 x 0.4                                       | EAR99 |
| PE71S6267 | Reflective    | 8 - 12             | 70                           | 1.9                               | 100                               | 0.1                                   | Solder Pin       | SMA Female        | Yes | 1 x 1 x 0.4                                       | EAR99 |
| PE71S6268 | Reflective    | 12 - 18            | 70                           | 2.5                               | 100                               | 0.1                                   | Solder Pin       | SMA Female        | Yes | 1 x 1 x 0.4                                       | EAR99 |

#### SP3T

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type | Field<br>Replaceable | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------|----------------------|---|-------|
| PE71S6242 | Absorptive    | 10 MHz - 1         | 60                           | 1.4                               | 200                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6211 | Absorptive    | 500 MHz - 18       | 55                           | 3.8                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                                   | EAR99 |
| PE71S6216 | Absorptive    | 500 MHz - 40       | 55                           | 6                                 | 50                                | 0.1                                   | Solder Pin     | 2.92mm<br>Female  | Yes                  | 1 x 1 x 0.5                                       | EAR99 |
| PE71S6243 | Absorptive    | 1 - 2              | 60                           | 1.25                              | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6248 | Absorptive    | 1 - 18             | 65                           | 3.75                              | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6244 | Absorptive    | 2 - 4              | 75                           | 1.5                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6245 | Absorptive    | 4 - 8              | 75                           | 2.5                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6246 | Absorptive    | 8 - 12             | 70                           | 2.8                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6247 | Absorptive    | 12 - 18            | 70                           | 3.75                              | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |



#### **SP3T Continued**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | J 1 | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type | Field<br>Replaceable | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----|---------------------------------------|----------------|-------------------|----------------------|---|-------|
| PE71S6270 | Reflective    | 10 MHz - 1         | 60                           | 1                                 | 200 | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6222 | Reflective    | 500 MHz - 18       | 55                           | 3.2                               | 100 | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                                   | EAR99 |
| PE71S6227 | Reflective    | 500 MHz - 40       | 55                           | 5.5                               | 50  | 0.1                                   | Solder Pin     | 2.92mm<br>Female  | Yes                  | 1 x 1 x 0.5                                       | EAR99 |
| PE71S6271 | Reflective    | 1 - 2              | 60                           | 1                                 | 100 | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6276 | Reflective    | 1 - 18             | 65                           | 2.75                              | 100 | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6272 | Reflective    | 2 - 4              | 75                           | 1.2                               | 100 | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6273 | Reflective    | 4 - 8              | 75                           | 2                                 | 100 | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6274 | Reflective    | 8 - 12             | 70                           | 2.4                               | 100 | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |
| PE71S6275 | Reflective    | 12 - 18            | 70                           | 2.75                              | 100 | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.4                                   | EAR99 |

#### SP4T

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) |            | Connector<br>Type | Field<br>Replaceable | Mechanical Dimensions L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|------------|-------------------|----------------------|---|-------|
| PE71S8003 |               | 30 MHz - 512 MHz   | 50                           | 0.75                              |                                   |                                       | Solder Pin | N Female          | No                   |   | EAR99 |
| PE71S2044 | Absorptive    | 5 MHz - 2.15       | 70                           | 2.5                               | 100,000                           | 0.1                                   | D-Sub      | F Female          | No                   | 3.5 x 2.5 x 1.19                            | EAR99 |
| PE71S2037 | Absorptive    | 5 MHz - 3          |                              | 3.5                               | 10,000                            | 1                                     | D-Sub      | SMA Female        | No                   | 3.5 x 2.5 x 1.19                            | EAR99 |
| PE71S6249 | Absorptive    | 10 MHz - 1         | 60                           | 1.5                               | 200                               | 0.1                                   | Solder Pin | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |

#### **SP4T Continued**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type | Field<br>Replaceable | Mechanical Dimensions L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------|----------------------|---|-------|
| PE71S6212 | Absorptive    | 500 MHz - 18       | 55                           | 3.8                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.6                             | EAR99 |
| PE71S6217 | Absorptive    | 500 MHz - 40       | 60                           | 8                                 | 50                                | 0.1                                   | Solder Pin     | 2.92mm<br>Female  | Yes                  | 2.75 x 1.5 x 0.4                            | EAR99 |
| PE71S6250 | Absorptive    | 1 - 2              | 60                           | 1.2                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |
| PE71S6255 | Absorptive    | 1 - 18             | 70                           | 3.75                              | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |
| PE71S6251 | Absorptive    | 2 - 4              | 75                           | 1.5                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |
| PE71S6252 | Absorptive    | 4 - 8              | 70                           | 2.2                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |
| PE71S6253 | Absorptive    | 8 - 12             | 70                           | 2.6                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |
| PE71S6254 | Absorptive    | 12 - 18            | 70                           | 3.75                              | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |
| PE71S1104 | Reflective    | DC - 6             | 25                           | 2                                 | 100                               | 40                                    |                | SMA Female        | No                   | 1.97 x 1.97 x 0.37                          | EAR99 |
| PE71S1109 | Reflective    | DC - 6             | 25                           | 2                                 | 100                               | 40                                    |                | SMA Female        | No                   | 0 x 0 x 0                                   | EAR99 |
| PE71S6277 | Reflective    | 10 MHz - 1         | 60                           | 1.2                               | 200                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |
| PE71S6223 | Reflective    | 500 MHz - 18       | 55                           | 3.2                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.5 x 1.5 x 0.6                             | EAR99 |
| PE71S6228 | Reflective    | 500 MHz - 40       | 55                           | 7.5                               | 50                                | 0.1                                   | Solder Pin     | 2.92mm<br>Female  | Yes                  | 2 x 1 x 0.4                                 | EAR99 |
| PE71S6278 | Reflective    | 1 - 2              | 60                           | 1                                 | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |
| PE71S6283 | Reflective    | 1 - 18             | 70                           | 3                                 | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 1.25 x 1.25 x 0.4                           | EAR99 |



#### **SP4T Continued**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type |     | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------|-----|---|-------|
| PE71S6279 | Reflective    | 2 - 4              | 75                           | 1.1                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes | 1.25 x 1.25 x 0.4                                 | EAR99 |
| PE71S6284 | Reflective    | 2 - 6              | 70                           | 2                                 | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes | 1.25 x 1.25 x 0.4                                 | EAR99 |
| PE71S6280 | Reflective    | 4 - 8              | 70                           | 1.8                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes | 1.25 x 1.25 x 0.4                                 | EAR99 |
| PE71S6285 | Reflective    | 6 - 12             | 70                           | 2.5                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes | 1.25 x 1.25 x 0.4                                 | EAR99 |
| PE71S6281 | Reflective    | 8 - 12             | 70                           | 2.2                               | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes | 1.25 x 1.25 x 0.4                                 | EAR99 |
| PE71S6282 | Reflective    | 12 - 18            | 70                           | 3                                 | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes | 1.25 x 1.25 x 0.4                                 | EAR99 |

#### SP5T

| PE P/N    | Switch Design | Frequency<br>(GHz) |    |     | Typical<br>Switching<br>Time (ns) | Input Power |            | Connector<br>Type | Replaceable | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|----|-----|-----------------------------------|-------------|------------|-------------------|-------------|---|-------|
| PE71S2045 | Absorptive    | 100 MHz - 20       | 65 | 3.9 | 75                                | 0.5         | Solder Pin | SMA Female        | No          | 1.34 x 1.34 x 0.45                                | EAR99 |

#### SP6T

| PE P/N    | Switch Design | Frequency<br>(GHz) |    |     | Typical<br>Switching<br>Time (ns) |     |            | Connector<br>Type | Replaceable | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|----|-----|-----------------------------------|-----|------------|-------------------|-------------|---|-------|
| PE71S2046 | Absorptive    | 100 MHz - 20       | 65 | 4.2 | 75                                | 0.5 | Solder Pin | SMA Female        | No          | 1.34 x 1.34 x 0.45                                | EAR99 |
|           |               |                    |    |     |                                   |     |            |                   |             |   |       |

#### SP8T

| PE P/N          | Switch Design | Frequency<br>(GHz) | Isolation |   | Typical<br>Switching<br>Time (ns) |     | Control    | Connector<br>Type | Replaceable | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------------|---------------|--------------------|-----------|---|-----------------------------------|-----|------------|-------------------|-------------|---|-------|
| PE71S2033       | Absorptive    | 100 MHz - 20       | 65        | 6 | 100                               | 0.5 | Solder Pin | SMA Female        | No          | 4 x 0.96 x 0.35                                   | EAR99 |
| and the same of |               |                    |           |   |                                   |     |            |                   |             |   |       |

#### **SP8T Continued**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type | Field<br>Replaceable | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------|----------------------|---|-------|
| PE71S6213 | Absorptive    | 500 MHz - 18       | 55                           | 4.5                               | 50                                | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 4 x 1.5 x 0.4                                     | EAR99 |
| PE71S6218 | Absorptive    | 500 MHz - 40       | 50                           | 10                                | 50                                | 0.1                                   | Solder Pin     | 2.92mm<br>Female  | Yes                  | 4 x 1.5 x 0.4                                     | EAR99 |
| PE71S6224 | Reflective    | 500 MHz - 18       | 55                           | 4                                 | 100                               | 0.1                                   | Solder Pin     | SMA Female        | Yes                  | 4 x 1.5 x 0.4                                     | EAR99 |
| PE71S6229 | Reflective    | 500 MHz - 40       | 45                           | 9                                 | 50                                | 0.1                                   | Solder Pin     | 2.92mm<br>Female  | Yes                  | 4 x 1.5 x 0.4                                     | EAR99 |

#### SP12T

| PE P/N     | Switch Design | Frequency    | Typical   | Typical   | Typical   | Max RF       | TTL        | Connector  | Field       | Mechanical            | ECCN  |
|------------|---------------|--------------|-----------|-----------|-----------|--------------|------------|------------|-------------|-----------------------|-------|
|            |               | (GHz)        | Isolation | Insertion | Switching | Input Power  | Control    | Type       | Replaceable | Dimensions            |       |
|            |               |              | (dB)      | Loss (dB) | Time (ns) | (CW) (Watts) |            |            |             | L(in) x W(in) x H(in) |       |
| PE71S2034  | Absorptive    | 100 MHz - 20 | 65        | 6         | 100       | 0.5          | Solder Pin | SMA Female | No          | 3.04 x 1.11 x 0.35    | EAR99 |
| San Marian |               |              |           |           |           |              |            |            |             |                       |       |

#### Transfer

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF<br>Input Power<br>(CW) (Watts) | TTL<br>Control | Connector<br>Type | Field<br>Replaceable | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------|----------------------|---|-------|
| PE71S6286 | Absorptive    | 10 MHz - 1         | 80                           | 1.3                               | 100                               | 2                                     | Solder Pin     | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                                   | EAR99 |
| PE71S6287 | Absorptive    | 1 - 2              | 80                           | 1                                 | 100                               | 1                                     | Solder Pin     | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                                   | EAR99 |
| PE71S6292 | Absorptive    | 1 - 18             | 65                           | 3.1                               | 100                               | 0.5                                   | Solder Pin     | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                                   | EAR99 |
| PE71S6288 | Absorptive    | 2 - 4              | 75                           | 1.2                               | 100                               | 1                                     | Solder Pin     | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                                   | EAR99 |
| PE71S6289 | Absorptive    | 4 - 8              | 75                           | 1.9                               | 100                               | 1                                     | Solder Pin     | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                                   | EAR99 |
| PE71S6290 | Absorptive    | 8 - 12             | 70                           | 2.2                               | 100                               | 0.5                                   | Solder Pin     | SMA Female        | Yes                  | 1.2 x 1.2 x 0.5                                   | EAR99 |



#### **Transfer Continued**

| PE P/N    | Switch Design | Frequency | Typical   | Typical   | Typical   | Max RF       | TTL        | Connector  | Field       | Mechanical            | ECCN  |
|-----------|---------------|-----------|-----------|-----------|-----------|--------------|------------|------------|-------------|-----------------------|-------|
|           |               | (GHz)     | Isolation | Insertion | Switching | Input Power  | Control    | Туре       | Replaceable | Dimensions            |       |
|           |               |           | (dB)      | Loss (dB) | Time (ns) | (CW) (Watts) |            |            |             | L(in) x W(in) x H(in) |       |
| PE71S6291 | Absorptive    | 12 - 18   | 65        | 3         | 100       | 0.5          | Solder Pin | SMA Female | Yes         | 1.2 x 1.2 x 0.5       | EAR99 |
| 60        |               |           |           |           |           |              |            |            |             |                       |       |

#### **High Isolation PIN Diode Switches**

| PE P/N    | Switch Design | Frequency<br>(GHz) | Typical<br>Isolation<br>(dB) | Typical<br>Insertion<br>Loss (dB) | Typical<br>Switching<br>Time (ns) | Max RF Input<br>Power<br>(Watts) | TTL Control      | Connector<br>Type | ECCN  |
|-----------|---------------|--------------------|------------------------------|-----------------------------------|-----------------------------------|----------------------------------|------------------|-------------------|-------|
| PE71S5001 | SPST          | 0 - 20             | 65                           | 6                                 | 8.5                               | 23                               | Solder Pin       | SMA Female        | EAR99 |
| PE71S5005 | SPDT          | 0 - 18             | 65                           | 3                                 | 12                                | 27                               | Solder Pin       | SMA Female        | EAR99 |
| PE71S5000 | SPDT          | 0 - 20             | 35                           | 4                                 | 5                                 | 23                               | Solder Pin       | SMA Female        | EAR99 |
| PE71S5002 | SPDT          | 1 - 2              | 90                           | 1                                 | 75                                | 32                               | Solder Terminals | SMA Female        | EAR99 |
| PE71S5006 | SP4T          | 0 - 20             | 38                           | 3.8                               |                                   | 24                               | Solder Pin       | SMA Female        | EAR99 |
| PE71S5003 | SP4T          | 2 - 6              | 80                           | 1.8                               | 35                                | 27                               | Solder Terminals | SMA Female        | EAR99 |
| PE71S5004 | SP4T          | 6 - 12             | 75                           | 2.5                               | 40                                | 27                               | Solder Terminals | SMA Female        | EAR99 |

#### **High Isolation USB Controlled PIN Diode Switches**

| PE P/N    | Switch Type | Switch Design | Frequency<br>Band (GHz) | Insertion Loss<br>(dB) | Isolation<br>(dB) | , , | Mechanical<br>Dimensions<br>L(in) x W(in) x H(in) | Connector     | ECCN  |
|-----------|-------------|---------------|-------------------------|------------------------|-------------------|-----|---|---------------|-------|
| PE71S3900 | USB 2.0     | SPDT          | 500 MHz - 18            | 6                      | 60                | 20  | 2.25 x 1 x 0.33                                   | SMA Female    | EAR99 |
| PE71S3901 | USB 2.0     | SPDT          | 500 MHz - 40            | 6                      | 60                | 20  | 2.25 x 1 x 0.33                                   | 2.92mm Female | EAR99 |

### Waveguide PIN Diode Switches

| PE P/N    | Waveguide<br>Type | Switch Type     | RF Frequency<br>Range (GHz) | Loss | Maximum<br>Isolation<br>(dB) | Maximum<br>Switching<br>Time (ns) | Flange Type          | Control<br>Connector | ECCN  |
|-----------|-------------------|-----------------|-----------------------------|------|------------------------------|-----------------------------------|----------------------|----------------------|-------|
| PE71S9003 | WR-10             | Reflective/SPST | 75 - 110                    | 5.5  | 20                           | 300                               | Round Cover UG-387/U | SMA Female           | EAR99 |
| PE71S9004 | WR-10             | Reflective/SPDT | 75 - 110                    | 7    | 20                           | 300                               | Round Cover UG-387/U | SMA Female           | EAR99 |
| PE71S9001 | WR-12             | Reflective/SPST | 60 - 90                     | 4.5  | 20                           | 300                               | Round Cover UG-387/U | SMA Female           | EAR99 |
| PE71S9002 | WR-12             | Reflective/SPDT | 60 - 90                     | 6    | 20                           | 300                               | Round Cover UG-387/U | SMA Female           | EAR99 |

### Digital TTL Control Modules

| PE P/N       | Voltage<br>(Volts) |      |     |        | Ethernet<br>Speed (Mb) |       | Digital TTL Output<br>Connector |
|--------------|--------------------|------|-----|--------|------------------------|-------|---------------------------------|
| PE70A7000    | 6                  | 1    | TTL | 18 x 2 | 10 - 100               | RJ-45 | 2 x 25 Pin D-Sub                |
|              |                    |      |     |        |                        |       |                                 |
| PE70A7001    | 5                  | 0.15 | TTL | 18     | 10 - 100               | RJ-45 | 25 Pin D-Sub                    |
| and the same |                    |      |     |        |                        |       |                                 |



## dBm - volts- watts Conversion Table (50-ohm system)

| dBm | V     | Ро      |  |  |
|-----|-------|---------|--|--|
| +53 | 100.0 | 200W    |  |  |
| +50 | 70.7  | 100W    |  |  |
| +49 | 64.0  | 80W     |  |  |
| +48 | 58.0  | 64W     |  |  |
| +47 | 50.0  | 50W     |  |  |
| +46 | 44.5  | 40W     |  |  |
| +45 | 40.0  | 32W     |  |  |
| +44 | 32.5  | 25W     |  |  |
| +43 | 32.0  | 20W     |  |  |
| +42 | 28.0  | 16W     |  |  |
| +41 | 26.2  | 12.5W   |  |  |
| +40 | 22.5  | 10W     |  |  |
| +39 | 20.0  | 8W      |  |  |
| +38 | 18.0  | 6.4W    |  |  |
| +37 | 16.0  | 5W      |  |  |
| +36 | 14.1  | 4W      |  |  |
| +35 | 12.5  | 3.2W    |  |  |
| +34 | 11.5  | 2.5W    |  |  |
| +33 | 10.0  | 2W      |  |  |
| +32 | 9.0   | 1.6W    |  |  |
| +31 | 8.0   | 1.25W   |  |  |
| +30 | 7.10  | 1.0W    |  |  |
| +29 | 6.40  | 800 mW  |  |  |
| +28 | 5.80  | 640 mW  |  |  |
| +27 | 5.00  | 500 mW  |  |  |
| +26 | 4.45  | 400 mW  |  |  |
| +25 | 4.00  | 320 mW  |  |  |
| +24 | 3.55  | 250 mW  |  |  |
| +23 | 3.20  | 200 mW  |  |  |
| +22 | 2.80  | 160 mW  |  |  |
| +21 | 2.52  | 125 mW  |  |  |
| +20 | 2.25  | 100 mW  |  |  |
| +19 | 2.00  | 80 mW   |  |  |
| +18 | 1.80  | 64 mW   |  |  |
| +17 | 1.60  | 50 mW   |  |  |
| +16 | 1.41  | 40 mW   |  |  |
| +15 | 1.25  | 32 mW   |  |  |
| +14 | 1.15  | 25 mW   |  |  |
| +13 | 1.00  | 20 mW   |  |  |
| +12 | 0.90  | 16 mW   |  |  |
| +11 | 0.80  | 12.5 mW |  |  |
| +10 | 0.71  | 10 mW   |  |  |
| +9  | 0.64  | 8 mW    |  |  |
| +8  | 0.58  | 6.4 mW  |  |  |
| +7  | 0.50  | 5 mW    |  |  |
| +6  | 0.45  | 4 mW    |  |  |
| +5  | 0.40  | 3.2 mW  |  |  |
| +4  | 0.36  | 2.5 mW  |  |  |
|     | 0.32  | 2.0 mW  |  |  |

|            |        | ı         |
|------------|--------|-----------|
| dBm        | V      | Ро        |
| +2         | 0.28   | 1.6 mW    |
| +1         | 0.25   | 1.25 mW   |
| 0          | 0.23   | 1.0 mW    |
| -1         | 0.20   | .80 mW    |
| -2         | 0.18   | .64 mW    |
| -3         | 0.16   | .50 mW    |
| -4         | 0.14   | .40 mW    |
| -5         | 0.13   | .32 mW    |
| -6         | 0.12   | .25 mW    |
| -7         | 0.10   | .20 mW    |
| -8         | 0.09   | .16 mW    |
| -9         | 0.08   | .125 mW   |
| -10        | 0.07   | .10 mW    |
| -11        | 0.06   |           |
| -12        | 0.06   |           |
| -13        | 0.05   | İ         |
| -14        | 0.05   |           |
| -15        | 0.04   |           |
| -16        | 0.0355 |           |
| dBm        | mV     | Ро        |
| -17        | 31.5   |           |
| -18        | 28.5   |           |
| -19        | 25.1   |           |
| -20        | 22.5   | .01 mW    |
| -21        | 20.0   |           |
| -22        | 17.9   |           |
| -23        | 15.9   |           |
| -24        | 14.1   |           |
| -25        | 12.8   |           |
| -26        | 11.5   |           |
| -27        | 10.0   |           |
| -28        | 8.9    |           |
| -29        | 8.0    |           |
| -30        | 7.1    | .001 mW   |
| -31        | 6.25   | .00111100 |
|            | +      |           |
| -32<br>-33 | 5.8    |           |
| -33        | 5.0    |           |
|            | 4.5    |           |
| -35        | 4.0    |           |
| -36        | 3.5    |           |
| -37        | 3.2    |           |
| -38        | 2.85   |           |
| -39        | 2.5    |           |
| -40        | 2.25   | .1 µW     |
| -41        | 2.0    |           |
| -42        | 1.8    |           |
| -43        | 1.6    |           |
| -44        | 1.4    |           |
| -45        | 1.25   | 1         |

| abiii      |             |          |
|------------|-------------|----------|
| -46        | 1.18        |          |
| -47        | 1.0         |          |
| -48        | 0.9         |          |
| -49        | 0.8         |          |
| -50        | 0.71        | .01 µW   |
| -51        | 0.64        |          |
| -52        | 0.57        |          |
| -53        | 0.5         |          |
| -54        | 0.45        |          |
| -55        | 0.4         |          |
| -56        | 0.351       |          |
| -57        | 0.32        |          |
| -58        | 0.286       |          |
| -59        | 0.251       |          |
| -60        | 0.225       | .001 µW  |
| -61        | 0.2         |          |
| -62        | 0.18        |          |
| -63        | 0.16        |          |
| -64        | 0.141       |          |
| dBm        | μV          | Ро       |
| -65        | 128         |          |
| -66        | 115         |          |
| -67        | 100         |          |
| -68        | 90          |          |
| -69        | 80          |          |
| -70        | 71          | .1 nW    |
| -71        | 65          |          |
| -72        | 58          |          |
| -73        | 50          |          |
| -74        | 45          |          |
| -75        | 40          |          |
| -76        | 35          |          |
| -77        | 32          |          |
| -78        | 29          |          |
| -79        | 25          |          |
| -80        | 22.5        | .01 nW   |
| -81        | 20          |          |
| -82        | 18          |          |
| -83        | 16          |          |
| -84        | 11.1        |          |
| -85        | 12.9        |          |
| -86        | 11.5        |          |
| -87        | 10.0        |          |
| -88        | 9.0         |          |
| -89        | 8.0         |          |
| -90        | 7.1         | .001 nW  |
| -90<br>-91 |             | .0011100 |
| -91<br>-92 | 6.1<br>5.75 |          |
| -92        | 5.75        |          |
| -93        | 5.0         |          |

| dBm  | μV   | Ро      |
|------|------|---------|
| -94  | 4.5  |         |
| -95  | 4.0  |         |
| -96  | 3.51 |         |
| -97  | 3.2  |         |
| -98  | 2.9  |         |
| -99  | 2.51 |         |
| -100 | 2.25 | .1 pW   |
| -101 | 2.0  |         |
| -102 | 1.8  |         |
| -103 | 1.6  |         |
| -104 | 1.41 |         |
| -105 | 1.27 |         |
| -106 | 1.18 |         |
| dBm  | nV   | Ро      |
| -107 | 1000 | PU      |
|      |      |         |
| -108 | 900  |         |
| -109 | 800  | 04 144  |
| -110 | 710  | .01 pW  |
| -109 | 640  |         |
| -112 | 580  |         |
| -113 | 500  |         |
| -114 | 450  |         |
| -115 | 400  |         |
| -116 | 355  |         |
| -117 | 825  |         |
| -118 | 285  |         |
| -119 | 251  |         |
| -120 | 225  | .001 pW |
| -121 | 200  |         |
| -122 | 180  |         |
| -123 | 160  |         |
| -124 | 141  |         |
| -125 | 128  |         |
| -126 | 117  |         |
| -127 | 100  |         |
| -128 | 90   |         |
| -129 | 80   |         |
| -130 | 71   | .1 fW   |
| -131 | 61   |         |
| -132 | 58   |         |
| -133 | 50   |         |
| -134 | 45   |         |
| -135 | 40   |         |
| -136 | 35   |         |
| -137 | 33   |         |
| -138 | 29   |         |
| -139 | 25   |         |
| -140 | 23   | 01 f\M  |
| -140 |      | .01 fW  |

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