

# HIGH POWER ATTENUATORS

DC-4 GHz

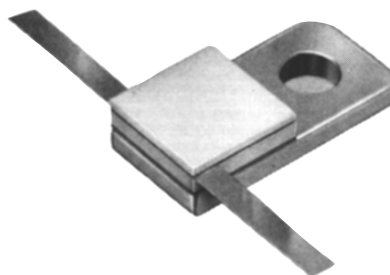
## SERIES PPA

### GENERAL INFORMATION

The KDI/Triangle PPA Series of attenuators utilize a Beryllium Oxide chip and thin film technology to provide devices which can dissipate up to 100 watts of R.F. power. The PPA series must be thermally bonded to a heat sink, using the mounting holes provided, in order to operate within the temperature rating indicated. The flange temperatures must not exceed 100°C under rated power conditions.

### GENERAL SPECIFICATIONS

|                               |                                               |
|-------------------------------|-----------------------------------------------|
| <b>Impedance:</b>             | 50 Ohms                                       |
| <b>Operating Temperature:</b> | -55°C to +150°C                               |
| <b>Attenuation Stability:</b> | 0.0001 dB/dB/°C                               |
| <b>Substrate:</b>             | Beryllium Oxide Ceramic                       |
| <b>Resistive Element:</b>     | Proprietary Thin Film                         |
| <b>Flange:</b>                | Copper, Nickel Plated per QQ-N-290            |
| <b>Tabs:</b>                  | Beryllium Copper, Gold Plated per MIL-G-45204 |
| <b>Cover:</b>                 | Alumina Ceramic                               |



### ORDERING INFORMATION

The Power Attenuators listed are available in 1 dB increments from 1 thru 20 dB. Specify by selecting any of the series listed and add the attenuation value desired to the basic series designation.

**EXAMPLE:**  
 Basic Series PPA 20-10 Desired dB Value  
 Power

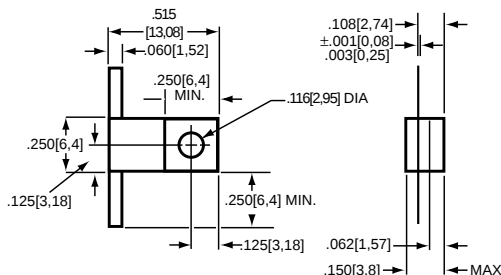
### PERFORMANCE SPECIFICATIONS

| Model   | Attenuation <sup>(1)</sup><br>1 dB Increments<br>(dB) | Frequency <sup>(1)</sup><br>Range | Input<br>Power<br>(Watts) | Attenuation (1) Accuracy<br>(dB)      |              |              |              | VSWR<br>(Maximum) <sup>2</sup>                                      |
|---------|-------------------------------------------------------|-----------------------------------|---------------------------|---------------------------------------|--------------|--------------|--------------|---------------------------------------------------------------------|
|         |                                                       |                                   |                           | dB                                    | DC-1 GHz     | 1-2.5 GHz    | 2.5-4 GHz    |                                                                     |
| PPA 10  | 1-20                                                  | DC-4 GHz                          | 10                        | 1-10<br>11-20                         | ±0.5<br>±1.0 | ±0.5<br>±2.0 | ±1.0<br>±3.0 | 1.3:1                                                               |
| PPA 20  | 1-20                                                  | DC-4 GHz                          | 20                        | 1-5                                   | ±0.5         | ±0.5         | ±0.5         | 1.15:1 – DC-1.0 GHz<br>1.35:1 – 1.0-2.5 GHz<br>1.50:1 – 2.5-4.0 GHz |
|         |                                                       |                                   |                           | 6-9                                   | ±0.5         | ±0.5         | ±1.0         |                                                                     |
|         |                                                       |                                   |                           | 10-15                                 | ±0.75        | ±1.0         | ±1.5         |                                                                     |
|         |                                                       |                                   |                           | 16-20                                 | ±1.0         | ±2.0         | ±3.0         |                                                                     |
| PPA 50  | 1-20                                                  | DC-1 GHz                          | 50                        | ±0.3 DC-500 MHz<br>±0.5 500 MHz-1 GHz |              |              |              | 1.25:1 – DC-500 MHz<br>1.50:1 – 500 MHz-1 GHz                       |
| PPA 100 | 1-20                                                  | DC-500 MHz                        | 100                       | ±0.5                                  |              |              |              | 1.25:1 – DC-200 MHz<br>1.50:1 – 200-500 MHz                         |
|         |                                                       |                                   |                           |                                       |              |              |              |                                                                     |

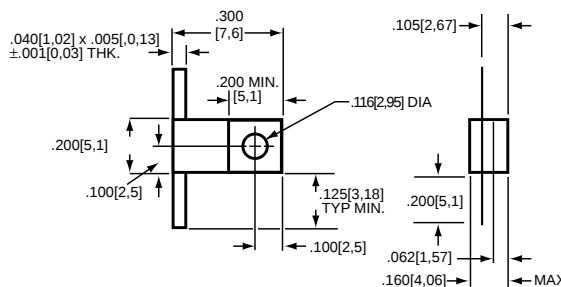
#### Notes:

1. Custom products are available at higher frequencies with optimized VSWR and attenuation accuracy over narrow frequency bandwidths.
2. VSWR as measured in a 0.125" ground plane stripline circuit.
3. Standard values 1, 2, 3, 4, 5, 6, 10, 20 dB.  
Non-std values available as special order.

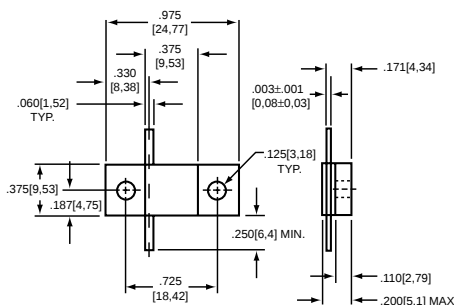
PPA 20 outline



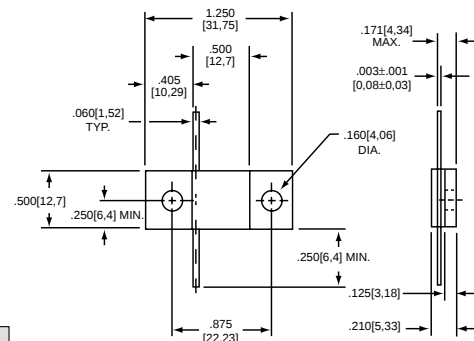
PPA 10 outline



PPA 50 outline



PPA 100 outline



KEY: Inches[Millimeters] .XX ±.03 .XXX ±.010 [.X ±0.8 .XX ±0.25]



**KDI/Triangle**  
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