

# Surface Mount Voltage Variable Attenuator

## EVA-3000+

50Ω 50 to 3000 MHz

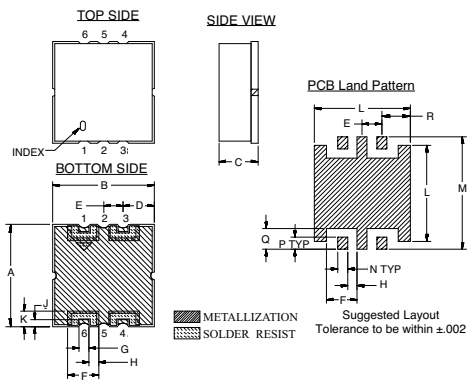
### Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -45°C to 85°C  |
| Storage Temperature                                             | -55°C to 100°C |
| Absolute Max. Supply Voltage(V+)                                | 7V             |
| Absolute Max. Control Voltage(Vctrl)                            | 9V             |
| Absolute Max. RF Input Level                                    | +22 dBm        |
| Permanent damage may occur if any of these limits are exceeded. |                |

### Pin Connections

|           |     |
|-----------|-----|
| RF IN     | 1   |
| RF OUT    | 6   |
| V CONTROL | 3   |
| V+        | 4   |
| GROUND    | 2,5 |

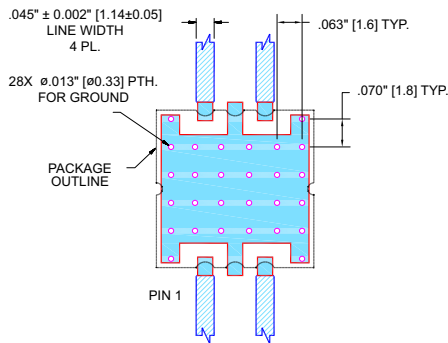
### Outline Drawing



### Outline Dimensions (inch/mm)

| A     | B     | C    | D     | E    | F    | G    | H    |       |
|-------|-------|------|-------|------|------|------|------|-------|
| .394  | .394  | .150 | .122  | .075 | .120 | .038 | .037 |       |
| 10.01 | 10.01 | 3.81 | 3.10  | 1.90 | 3.05 | 0.97 | 0.94 |       |
| J     | K     | L    | M     | N    | P    | Q    | R    | wt.   |
| .026  | .061  | .370 | .434  | .038 | .046 | .081 | .110 | grams |
| 0.66  | 1.55  | 9.40 | 11.02 | 0.97 | 1.17 | 2.06 | 2.79 | 0.7   |

### Demo Board MCL P/N: TB-335 Suggested PCB Layout (PL-187)



#### NOTES:

- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS. .025" ± .002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Features

- Frequency range, 50-3000 MHz
- IP3, 45 dBm typ.
- Maximum attenuation at minimum current
- No external bias and RF matching network required
- Small size, shielded case
- Low cost, \$4.99 ea. (qty.1K)
- Aqueous washable

### Applications

- Variable gain amplifier
- Feed forward amplifiers
- ALC circuits



CASE STYLE: HE1135  
PRICE: \$9.95 ea. QTY (10-49)

**+ RoHS compliant in accordance  
with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

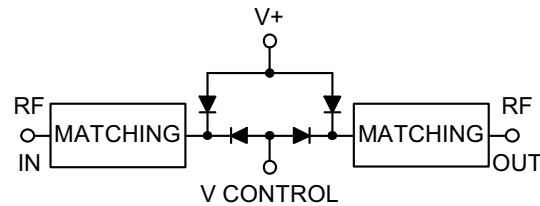
### Electrical Specifications (T<sub>AMB</sub> = 25°C)

| FREQ.<br>(MHz) |      | MIN. INSERTION<br>LOSS, dB (+8V) |      | MAX. ATTENUATION<br>dB (0V) |      | INPUT<br>POWER<br>(dBm) | CONTROL<br>Voltage Current<br>(V) (mA) |    | IP3<br>(dBm) | RETURN<br>LOSS<br>(dB) | POWER SUPPLY<br>Voltage Current<br>(V) (mA) |      |
|----------------|------|----------------------------------|------|-----------------------------|------|-------------------------|----------------------------------------|----|--------------|------------------------|---------------------------------------------|------|
| Min.           | Max. | Typ.                             | Max. | Typ.                        | Min. | Max.                    |                                        |    | Typ.         | Typ.                   |                                             | Max. |
| 50 - 1000      |      | 2.5                              | 4.0  | 43                          | 27   | +22                     | 0 - 8                                  | 40 | 41           | 21                     | +5                                          | 5    |
| 1000 - 2000    |      | 3.0                              | 4.5  | 29                          | 21   | +22                     | 0 - 8                                  | 40 | 45           | 22                     | +5                                          | 5    |
| 2000 - 3000    |      | 3.5                              | 5.5  | 24                          | 17   | +22                     | 0 - 8                                  | 40 | 44           | 18                     | +5                                          | 5    |

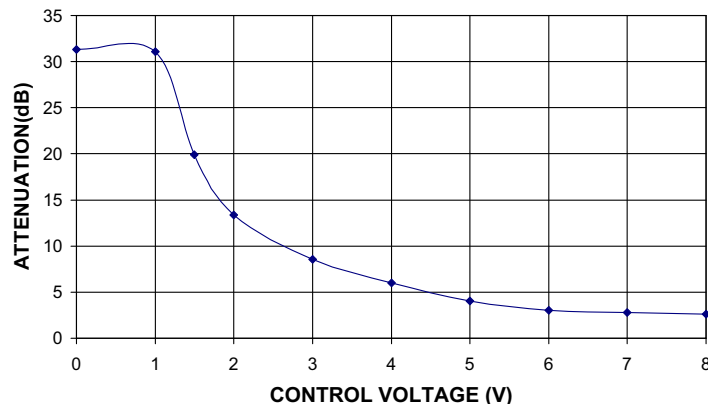
#### Notes:

Rise/Fall time: 15μSec/36μSec Typ.  
Switching Time, turn on/off: 40μSec. Typ.

### Equivalent Schematic



### EVA-3000+ TYPICAL ATTENUATION AT 1500MHz



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IF/RF MICROWAVE COMPONENTS

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