



# RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

## RFDAT3133G7A

### Absorptive Digital Control Attenuator 31 - 33GHz



#### Features

- Wide Band Operation 31-33GHz
- 1dB LSB Steps to 127dB
- Single Positive Control Line Per Bit
- Customization available upon request

Electrical Specifications, TA = +25° C, Vdd = +5V, Vss = -5V & VCTL = 0 / +5V

| Description                                          | PN: RFDAT3133G7A               |       |     |        |
|------------------------------------------------------|--------------------------------|-------|-----|--------|
|                                                      | Absorptive Digital Attenuator  |       |     |        |
| Parameters                                           | Min                            | Typ   | Max | Units  |
| Frequency Range                                      | 31                             |       | 33  | GHz    |
| Attenuation Range                                    |                                |       | 127 | dB     |
| Attenuation Flatness: (Referenced to Insertion Loss) |                                | ±1.5  |     | dB     |
| Control Bits                                         |                                |       | 7   | Bit    |
| Control Step size                                    |                                | 1     |     | dB     |
| Insertion Loss                                       |                                | 22.5  |     | dB     |
| Insertion Loss Temperature Coefficient               |                                | 0.005 |     | dB/°C  |
| Input VSWR (All States)                              |                                |       | 2.0 | : 1    |
| Output VSWR (All States)                             |                                |       | 2.0 | : 1    |
| Input 0.1 dB Compression Point                       |                                | 23    |     | dBm    |
| IP3 Input                                            |                                | 45    |     | dBm    |
| Switching Speed                                      | /                              |       |     | ns     |
| Weight                                               | 1.41                           |       |     | ounces |
| Impedance                                            | 50                             |       |     | Ω      |
| Bias Current (+5V/-5V)                               | 50/50                          |       |     | mA     |
| Input / Output Connectors                            | 2.92 - Female                  |       |     |        |
| Interface and Control Connector                      | MICRO-D15 (Female)             |       |     |        |
| Finishing                                            | Gold Plating                   |       |     |        |
| Material                                             | Aluminum                       |       |     |        |
| Sealing                                              | Hermetically Sealed (Optional) |       |     |        |

Absorptive Digital Control Attenuator 31-33GHz



### Absolute Maximum Ratings

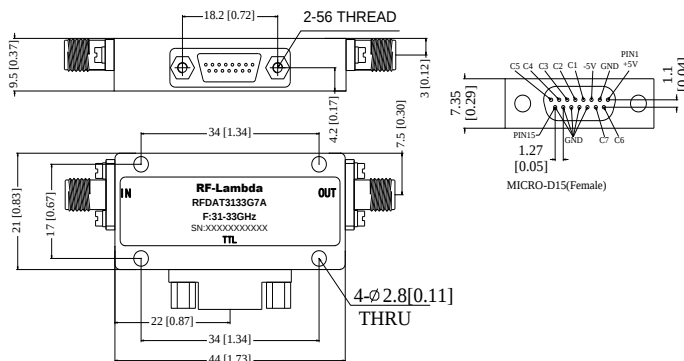
|                     |                 |
|---------------------|-----------------|
| Biasing             | +5V±10%/-5V±10% |
| TTL Control Voltage | 0~0.8V / 2~5V   |
| RF Input Power      | +23dBm          |

### Ordering Information

| Part No.     | ECCN  | Description                         |
|--------------|-------|-------------------------------------|
| RFDAT3133G7A | EAR99 | 31-33GHz Digital Control Attenuator |

### Environmental Specifications

|                              |                                                                                        |
|------------------------------|----------------------------------------------------------------------------------------|
| Operational Temperature (°C) | -45 ~ +85                                                                              |
| Storage Temperature (°C)     | -50 ~ +125                                                                             |
| Altitude                     | 30,000 ft.<br>(Epoxy Sealed Controlled environment)                                    |
|                              | 60,000 ft. 1.0psi min<br>(Hermetically Sealed Un-controlled environment)<br>(Optional) |
| Vibration                    | 25g RMS (15 degrees 2KHz)<br>endurance, 1 hour per axis                                |
| Humidity                     | 100% RH at 35c, 95%RH at 40 deg c                                                      |
| Shock                        | 20G for 11msec half sine wave,<br>3 axis both directions                               |



### Outline Drawing:

All Dimensions in mm [inches]

| Control Voltage Input |    |    |    |    |    |    | Attenuation state |
|-----------------------|----|----|----|----|----|----|-------------------|
| C7                    | C6 | C5 | C4 | C3 | C2 | C1 |                   |
| 1                     | 1  | 1  | 1  | 1  | 1  | 1  | Reference IL      |
| 1                     | 1  | 1  | 1  | 1  | 1  | 0  | 1dB               |
| 1                     | 1  | 1  | 1  | 1  | 0  | 1  | 2dB               |
| 1                     | 1  | 1  | 1  | 0  | 1  | 1  | 4dB               |
| 1                     | 1  | 1  | 0  | 1  | 1  | 1  | 8dB               |
| 1                     | 1  | 0  | 1  | 1  | 1  | 1  | 16dB              |
| 1                     | 0  | 1  | 1  | 1  | 1  | 1  | 32dB              |
| 0                     | 1  | 1  | 1  | 1  | 1  | 1  | 64dB              |
| 1                     | 1  | 1  | 1  | 1  | 1  | 1  | 127dB             |



TruthTable

### Important Notice

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.