SURFACE MOUNT–CERAMIC

ATTENUATOR, PIN DIODE

0.8–4 GHz

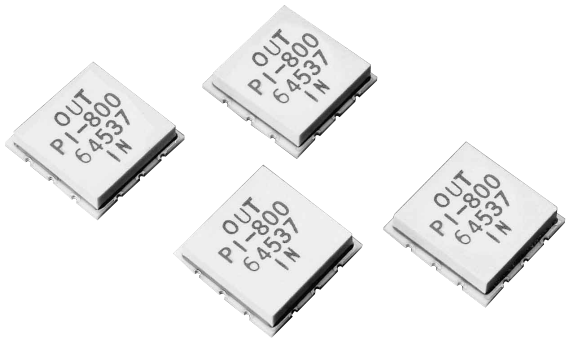
SERIES PI-800

GENERAL INFORMATION

The PI-800 Series attenuators are part of the new Surfpac product line featuring good intermodulation performance compared to their GaAs counterparts for PCS/cellular base station use. In addition, the PIN diodes offer good power-handling capabilities and are less sensitive to electrostatic discharge problems. These features are important considerations in base station applications where the effects of antenna-related RF switching and indirect lightning-induced voltage spikes are present.

PIN diode components have inherent advantages over the GaAs alternatives at PCS/cellular frequencies. The PI-800 Series attenuator makes use of these advantages in a low cost surface-mount package suitable for pick-and-place applications. As a result, the attentuator satisfies both the technical specifications and the manufacturing requirements of today's demanding commercial marketplace.

PIN diodes are widely accepted as more robust alternatives to GaAs FETs and offer higher isolation with lower insertion loss than plastic packaged GaAs attenuators at Personal Communications Service (PCS) frequencies. The PI-800 Series analog attenuator incorporates PIN diodes with highly reliable thick-film technology and surface mount components on a miniature low cost sealed surface mount alumina header. This new attenuator provides a good match, flat attenuation and overall superior performance over the 0.8–4 GHz frequency range, and can be optimized over lower frequency ranges.



FEATURES

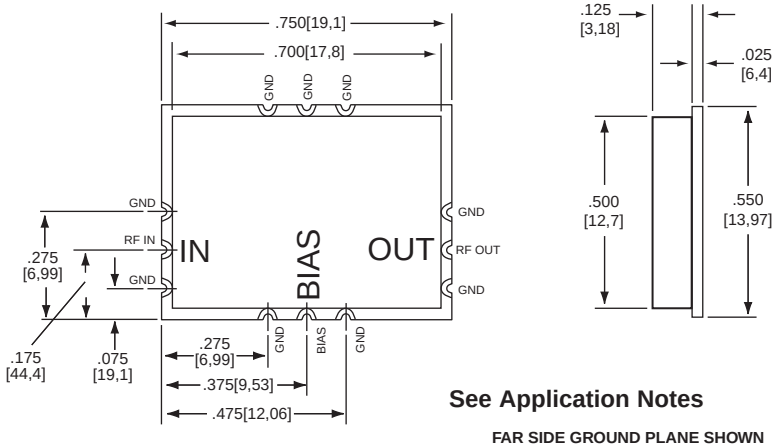
- Low Loss
- Low I.M. products
- PIN diode performance
- Low VSWR
- 500 mw power
- Pick and place and reflow manufacture
- Shunt diode design

GENERAL SPECIFICATIONS

Frequency Range:	10% B.W. Typical, 0.8–4 GHz
Insertion Loss:	Per chart
Attenuation Range:	Per chart
Control Voltage:	0-5 VDC
1 dB Compression Point:	+27 dBm
Construction:	Thick film alumina with epoxy sealed cover
Speed:	2 µsec
Temperature:	-10 to +80°C. See application note for recommended maximum reflow soldering temperatures.

Model	Frequency (GHz)	Attenuation Range (dB)	Insertion Loss (dB) Maximum	VSWR Maximum	Typical Current(mA)
PI-820NS	1.84-1.94	0-6	0.7	1.50	30
PI-840	0.8-1.0	0-35	0.5	1.40	50
PI-850	0.8-1.0	0-30	1.0	1.50	50
PI-845	1.7-2.0	0-35	0.8	1.50	50
PI-855	1.7-2.0	0-25	1.0	1.50	50
PI-A05	2.4-2.46	0-20	1.3	1.50	50
PI-A04	3.55-3.65	0-25	1.5	1.50	50
PI-A06	3.5-4.0	0-20	1.5	1.50	50

OUTLINE–PI-800 SERIES



See Application Notes

FAR SIDE GROUND PLANE SHOWN

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

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