Gain Equalizer

Used to compensate for the Gain Slope of other elements

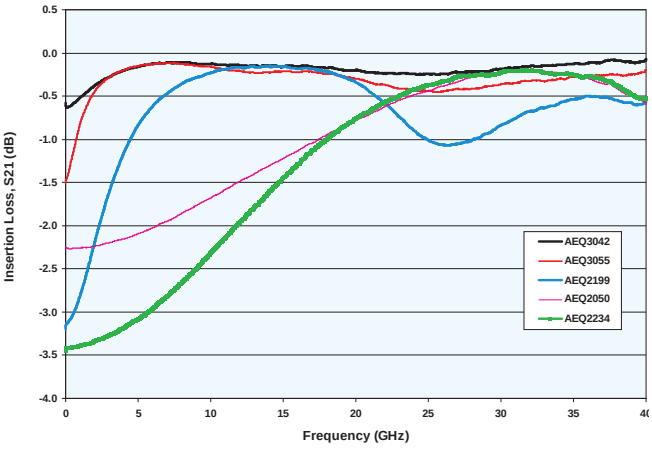
Functional Applications

- Equalizer compensates for module Gain Slope
- Broadband communications, RADAR, phased arrays
- SONET modules to 40+ GHz

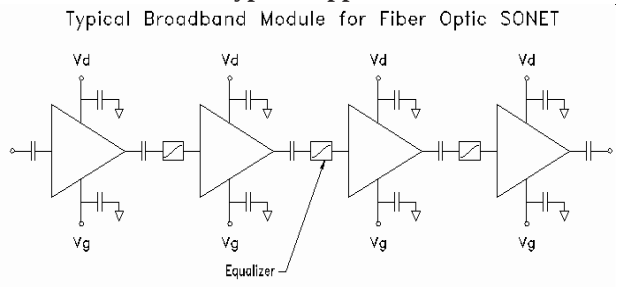
Benefits

- Superior microwave performance
- Excellent repeatability
- Ease of assembly, reduced size and cost

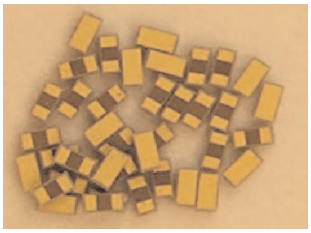
Performance

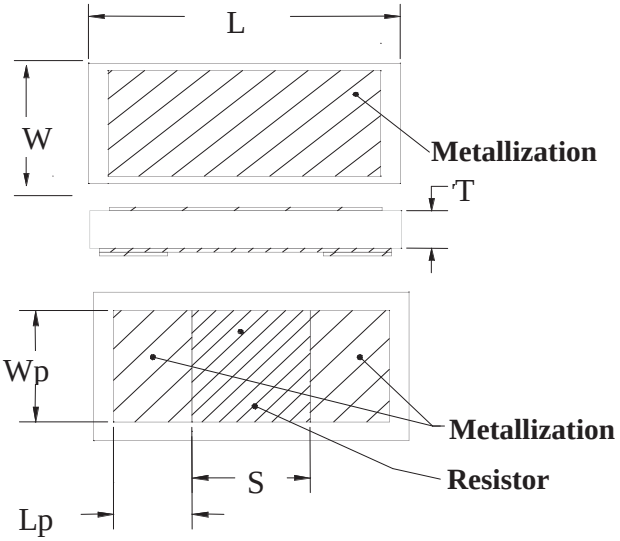


Typical Application



Excellent, repeatable microwave performance is achieved by application of precision thin film fabrication and DLI Hi-K Ceramic materials. DLI's unique design solution provides near Ideal R-C frequency response, far superior to "Stacked R-C chip" Assemblies.





Part #	Resistor (R)	Low Frequency Insertion Loss, 50 ohm system (dB)	Equivalent Capacitance (pF)	F_o (GHz)	Mounting Attachment material: S=solder E=epoxy	L	W	T
AEQ 2199	43 Ω	-3.0	1.15	16	E	0.028" ± .002" (.711 ± .051 mm)	0.016" ± .002" (.406 ± .051 mm)	0.007" ± .001" (.178 ± .025 mm)
AEQ 2050	30 Ω	-2.2	0.33	34	E	0.030" ± .002" (.762 ± .051 mm)	0.016" ± .002" (.406 ± .051 mm)	0.005" ± .001" (.127 ± .025 mm)
AEQ 2234	50 Ω	-3.5	0.31	32	E	0.032" ± .002" (.813 ± .051 mm)	0.018" ± .002" (.457 ± .051 mm)	0.005" ± .001" (.127 ± .025 mm)
AEQ 3042	9 Ω	-0.8	12.5	7	S	0.040 ± .002" (1.02 ± .051 mm)	0.020 ± .002" (.508 ± .051 mm)	0.006 ± .001" (.152 ± .025 mm)
AEQ 3055	20 Ω	-1.6	9.0	7	S	0.040 ± .002" (1.02 ± .051 mm)	0.020 ± .002" (.508 ± .051 mm)	0.006 ± .001" (.152 ± .025 mm)

Custom Equalizers can be designed per customer specification. Please consult Factory for additional information

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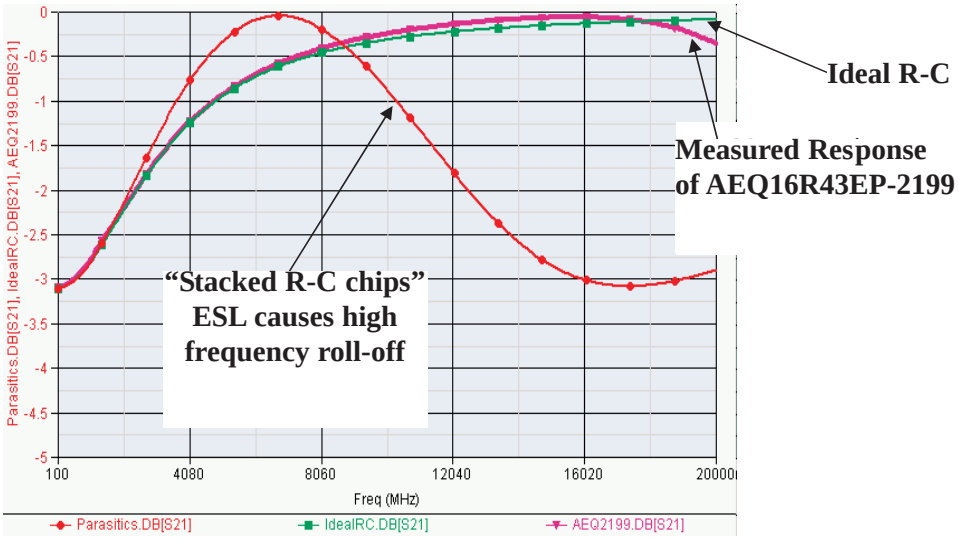
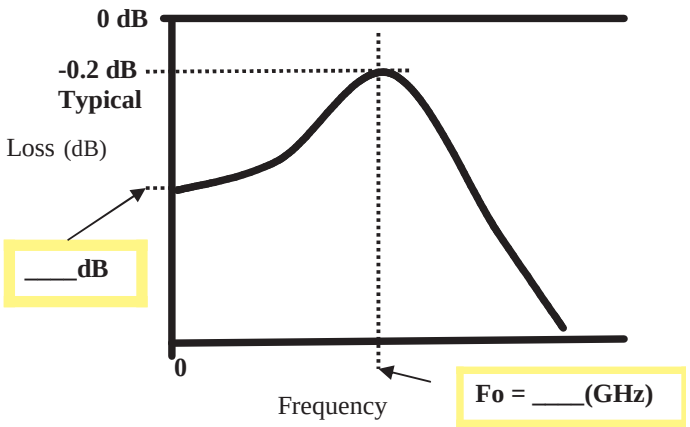
Gain Equalizer

DLI's gain equalizer frequency response is compared with that of an ideal R-C, and stacked R-C chips in the figure below. The stacked R-C chip model utilizes the same Rchip and Cchip values as in the ideal R-C model. The key point is that the chip component R and C values used in a stacked chip equalizer are generally not the ideal values for specifying the DLI single chip gain equalizer. The next section discusses specifying the part by frequency response parameters, or in terms of the ideal R-C values.



Custom Equalizer Design Inputs:

- Low frequency loss or resistance value
- Fo minimum loss frequency or capacitance determined using equivalent circuit model on page 32.
- Case size restrictions - 50 ohm microstrip line width is a typical maximum case width objective



Case Size (inches)	Preferred:_____ Maximum Length:_____ Maximum Width:_____
Minimum Loss Frequency (GHz)	Fo_____ GHz
Low Frequency Loss (**dB**), 50 ohm system	Design Resistance (ohms)_____ Loss(dB)_____
Operating Temperature Range (C°)	Minimum Temperature: _____ Maximum Temperature:_____
Power Dissipation (mw)	
Assembly Method (SMT or Epoxy)	Conductive Epoxy attach_____ Solder attach_____ Solder type_____
Board Material	Material _____ Dielectric constant _____ Thickness_____

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