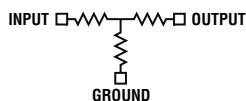
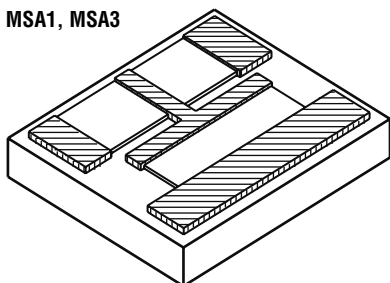


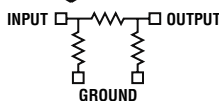
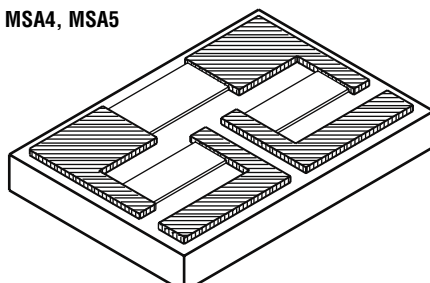
Thick Film Chip Attenuators



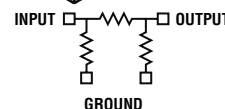
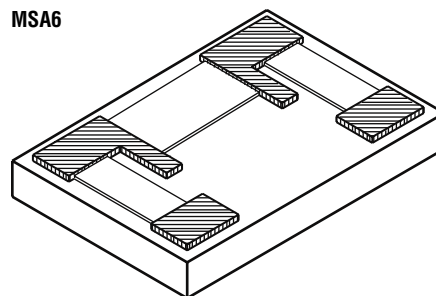
MSA1, MSA3



MSA4, MSA5



MSA6



Wire and ribbon bondable and Flipchip thick film chip attenuators, printed and fired on 96% alumina. Provides attenuation accuracy for frequencies through 10 GHz. Double layer terminations provide additional bonding surface. Abrasive trimming ensures optimum resistor stability. Diamond sawed for dimensional uniformity and accuracy. Advanced processing techniques, and Hi-Rel construction assure optimum performance.



PART NUMBER DESIGNATION

EXAMPLE: MSA3G-01dB-BU

MSA-3 Series, Gold Termination, -1dB, Back Metal, Untinned

style: MSA	Mini-Systems Attenuator
Type: 3	1, 3, 4, 5, 6
Termination: G	G = Gold
Material <i>Base Metal</i>	PG = Platinum Gold PS = Palladium Silver
dB Value: 01dB	
Metal Options: B	B = Back Metal Blank = No Metal Options
Option: U	U = Untinned <i>No Solder</i> S = Soldered <i>Packaged in chip trays if not specified</i>

MSA1, MSA3

Size	MSA1 = 0.320" x 0.240" x 0.030" (± 0.005) MSA3 = 0.155" x 0.125" x 0.030" (± 0.005)
Substrate	96% Alumina
Bond Pads	Wire Bondable, Ribbon Bondable, or Solderable
Attenuation Ranges	-1dB Through -20dB. Consult Sales For 0.5dB Steps
Attenuation Accuracy	± 0.5 dB
Frequency Range	DC Through 10 GHz
Impedance	50 Ω
Vswr	1.5:1 Max.
Power Rating	MSA1 = 1W MSA3 = 500mW

MSA6

Size	MSA6 = 0.090" x 0.050" x 0.011" (± 0.002)
Substrate	96% Alumina
Bond Pads	Wire Bondable, Ribbon Bondable, or Solderable
Attenuation Ranges	-1dB Through -20dB. Consult Sales For 0.5dB Steps
Attenuation Accuracy	± 0.5 dB
Frequency Range	DC Through 10 GHz
Impedance	50 Ω
Vswr	1.5:1 Max.
Power Rating	MSA6 = 125mW <i>Higher power ratings available</i>

Other configurations and impedances are available

MSA4, MSA5

Size	MSA4 = 0.155" x 0.125" x 0.030" (± 0.005) MSA5 = 0.320" x 0.240" x 0.030" (± 0.005)
Substrate	96% Alumina
Bond Pads	Wire Bondable, Ribbon Bondable, or Solderable
Attenuation Ranges	-1dB Through -20dB. Consult Sales For 0.5dB Steps
Attenuation Accuracy	± 0.5 dB
Frequency Range	DC Through 10 GHz
Impedance	50 Ω
Vswr	1.5:1 Max.
Power Rating	MSA4 = 500mW MSA5 = 1W