GaAs Integrated Digital Attenuator Features Low Insertion Loss

M/A-COM Technology Solutions, a leading supplier of high performance analog semiconductor solutions, introduced a 1-Bit digital attenuator for CATV and set-top box (STB) front end applications. The MAAD-010305 is a 15 dB step GaAs MMIC digital attenuator. It is designed to condition cable input signals to the STB. The device is ideally suited for use where high accuracy, very low power consumption, and low intermodulation products are required.

“We are very pleased to continue the expansion of our 75 ? product portfolio with the introduction of this highly linear, 15 dB digital attenuator,” said Graham Board, Product Manager. “This device is ideally suited for use in high volume, cost sensitive customer premises equipment.”

The table below outlines typical part number performance:

Parameters	Units	MAAD-01030
Insertion Loss	dB	0.3
Attenuation	dB	15
Input Return Loss	dB	14
Output Return Loss	dB	14

Input IP3	dBm	46
P1dB	dBm	20
CTB (157 Channels, P_{IN} = 35 dBmV/Ch)	dBc	70
CSO(157 Channels, P_{IN} = 35 dBmV/Ch)	dBc	66
Transients	mV	20
Package		SOT-25

The MAAD-010305 is fabricated as a monolithic GaAs integrated circuit using a mature pHEMT process. The process features full chip passivation for performance and reliability. The attenuator is designed for operation from DC to 1.1 GHz. It is packaged in a RoHS compliant lead free SOT-25, five-lead surface mount plastic package. The MAAD-010305 is characterized by low insertion loss and allows for positive and negative voltage control, complimented by 75 ? impedance.

Production quantities and samples of MAAD-010305 are available from stock. Final datasheets and additional product information can be obtained from the M/A-COM Tech website at www.macomtech.com [1]

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