Impellimax

Binary Input Dual-Output Linearizer for GaAs MMICs

The 8579 and it's related product family provides a simple one-chip method of driving 2-input (series/shunt) GaAs MMIC attenuators with a binary coded word. The device is capable of 8-bit resolution, and linearizing resistors can be calculated with freely-provided software.

Package is .325 by .625, .115 thick 22 leads

The Impellimax model 8579 accepts an 8-bit binary word and provides two voltage outputs which can drive a GaAs MMIC attenuator in a linear mode, resulting in 256 linearly-spaced attenuation steps. The output transfer function curves are user-adjustable, by means of four breakpoint connections, to allow tailoring to specific GaAs IC's and attenuation ranges.

The unit operates with supplies in the range of +/-5V to +/-15V, with TTL compatibility assured over this full range. There are internal .01 uF power-supply-decoupling capacitors on both supplies. Power supply consumption is typically under 20 mA per supply, depending on the application circuit.

Settling time for a half-band step is typically in the range of 50 to 200 nsec.

The device is housed in a .375 by .625 inch flatpack, which is .115 thick. It is a 22-lead device, and gull-wing leadforming is available as a no-charge option. It is rated for operation from –55 °C to + 125 °C.

This device can also be used to drive certain types of PIN-diode attenuators. Related devices are available to provide similar funtionality for single-output (either series or shunt) PIN attenuators, in which case there can be up to 9 breakpoints available for setting the linearity of the transfer function.

VCO linearizing versions are also available. Contact the factory for details.