

# Using This Guide

Over 2000 Mini-Circuits IF/RF/Microwave Signal-Processing components are completely specified and described in this Guide.

The large number of available models is offered so that the design engineer may select a model

that closely fits the application requirement. In situations where there is a need for special electrical performance, mechanical configurations, environmental screening, or very low cost units, please contact our Applications Department. See page 211. In many cases, we produce special components in less than two weeks.

## table of contents

The table of contents on pages 4, 5 lists product sub groups with corresponding specification pages and product group technical information including articles.

## model number index

In each product group, model numbers are listed in alphanumeric order with page references to electrical specifications. All surface-mount models are highlighted with an indicator. See pages 14-17.



**BLUE CELL**<sup>TM</sup>  
TECHNOLOGY

A process utilizing multi-layer ceramic substrates to provide low cost, high performance RF/Microwave components that are temperature stable, highly repeatable, and miniature in size. Protected by a number of patents.

## tape and reel packaging

Designers applying automated assembly procedures for surface-mount components will find a listing for tape width, reel size, package number, and number of devices on a reel; "footprints" for the various packages are shown on pages 34, 35.

## specifications

The specification pages in each section include, for every model, a photo, complete electrical specifications, price, schematic diagram, pin connections (for pc board models) or connector markings, and reference designations for the case style and outline drawing. Each model within a series has a case style and outline drawing reference. Comments applicable to the specifications are listed under Notes which appear for each page spread.

Using the latest industry criteria for specifying mixer and I and Q modulator performance, "typical" conversion loss has been deleted and replaced with  $x$  and  $\sigma$  (sigma) average value and standard deviation of values for conversion loss. A discussion of these parameter listings is given. See pages 32, 33.

**SURFACE MOUNT**



This "quick reference" headline and footer can be found on various product specification pages. It denotes that all the models featured on that page, or spread are surface mount and conveniently packaged on tape & reel.

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case style  
outline drawings

**The Design Engineers Search Engine** To find actual performance data of units to match your requirements from Mini-Circuits web site at: <http://www.minicircuits.com>. See pages 8, 9.

Case Style and Outline Drawings include information on case dimensions, tolerances, case material and finish, bracket options and "footprint" sketches for pc board design using surface-mount units. See pages 36 through 61.

The information is arranged in tabular form with alphanumeric reference designations. Each alpha designation refers to a particular outline drawing. A photo of each case style is shown and designated on the model specification page.

SMD

Surface-mount devices are included in almost every product group. See model number index page 14-17. Product group specification sections indicate non-hermetic and tape and reel package availability. Technical articles are listed on pages 20 through 33.



prices

This symbol identifies products that are manufactured with extra reliability. See page 30 for a complete explanation.

The prices shown are the U.S. unit list prices for the quantity indicated. For unit prices in higher quantities, and for a formal quote, contact our nearest distribution center, authorized local distributor, sales office or the factory. See back cover.

ordering information  
and warranty

For ordering information, warranty, terms of payment, and shipping instructions, see pages 8 and 9.

applications support/  
technical assistance

For literature requests, assistance in selecting models, understanding model specifications, requesting additional model performance data, contact our Applications Engineering Department. See page 211.

sales assistance

For assistance in purchasing products, obtaining quotes, opening up an account, requesting order status information, assistance in obtaining same or next day delivery, contact our Sales Department.

NSN numbers

Specification pages contain a listing of Mini-Circuits' models that have been assigned a National Stock Number (NSN).

listing of reps,  
authorized distributors  
distribution centers

A complete list of Mini-Circuits' sales representatives, local distributors, and major Distribution Centers puts you in immediate contact with our Sales Support team to answer questions, assist in component selection, and expedite orders. See back cover.