

# HSCH-9401

## GaAs Schottky Diode

## Data Sheet

### Description

The HSCH-9401 is a discrete Schottky barrier diode fabricated with the Schottky Barrier Integrated Diode (SBID) process.

### Applications

The HSCH-9401 is a general purpose millimeter wave diode that can be used as a detector or as a mixer in applications such as digital radio, LMDS, or video distribution.

### Assembly Techniques

Diodes are ESD sensitive. ESD preventive measures must be employed in all aspects of storage, handling, and assembly.

Diode ESD precautions, handling considerations, die attach and bonding methods are critical factors in successful diode performance and reliability.

Avago application note #54, "GaAs MMIC ESD, Die Attach and Bonding Guidelines" provides basic information on these subjects.

### Additional References

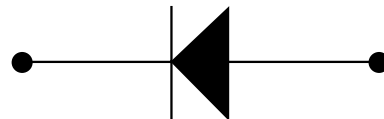
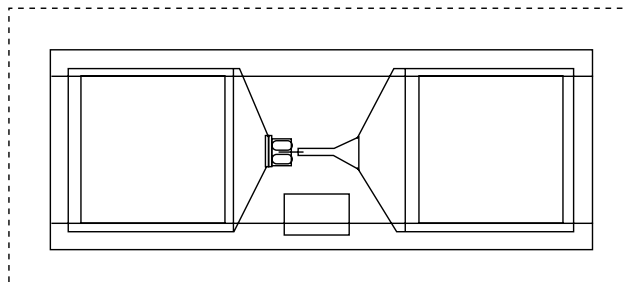
PN #1, "HSCH-9401 Diode Model," and PN# 16, "HSCH-9401 Detector Sensitivity Measurements."

### Features

- $f_c > 800$  GHz
- Low junction capacitance  
– typically 35 fF
- Low series resistance  
– typically  $6\Omega$
- High cut-off frequency
- Polyimide scratch protection
- Durable construction
- Large bond pads suitable for automated wire bonding or flip-chip assembly

### Specifications

- $V_f$  (1 mA): 630–800 mV
- $V_f$  (10 mA): 730–980 mV
- $R_S$  (5 mA):  $< 20\Omega$
- $B_V$  (-10  $\mu$ A):  $> 6$  V
- $I_r$  (-2V):  $< 200$  nA
- $C_t$ :  $< 0.045$  pF



Chip Size:	610 x 255 $\mu$ m (24 x 10 mils)
Chip Size Tolerance:	$\pm 10$ $\mu$ m ( $\pm 0.4$ mils)
Chip Thickness:	100 $\mu$ m (4 mils)
Chip Thickness Tol:	$\pm 15$ $\mu$ m ( $\pm 0.6$ mils)
Bond Pad Sizes:	175 x 175 $\mu$ m (6.9 x 6.9 mils)

This data sheet contains a variety of typical and guaranteed performance data. The information supplied should not be interpreted as a complete list of circuit specifications. In this data sheet the term typical refers to the 50th percentile performance. For additional information contact your local Avago sales representative.

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