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***Rocky Enterprise Linux 9.2 Manual Pages on command 'casinhf.3'***

**\$ man casinhf.3**

CASINH(3)                      Linux Programmer's Manual                      CASINH(3)

**NAME**

casinh, casinhf, casinhl - complex arc sine hyperbolic

**SYNOPSIS**

```
#include <complex.h>

double complex casinh(double complex z);

float complex casinhf(float complex z);

long double complex casinhl(long double complex z);

Link with -lm.
```

**DESCRIPTION**

These functions calculate the complex arc hyperbolic sine of z. If  $y = \text{casinh}(z)$ , then  $z = \text{csinh}(y)$ . The imaginary part of y is chosen in the interval  $[-\pi/2, \pi/2]$ .

One has:

$$\text{casinh}(z) = \text{clog}(z + \text{csqrt}(z * z + 1))$$

**VERSIONS**

These functions first appeared in glibc in version 2.1.

**ATTRIBUTES**

For an explanation of the terms used in this section, see attributes(7).

??

?Interface                      ? Attribute    ? Value    ?

??

?casinh(), casinhf(), casinhl() ? Thread safety ? MT-Safe ?

??

## CONFORMING TO

C99, POSIX.1-2001, POSIX.1-2008.

## SEE ALSO

`asinh(3)`, `cabs(3)`, `cimag(3)`, `csinh(3)`, `complex(7)`

## COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

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