NAME

casinh, casinhf, casinhl − complex arc sine hyperbolic

LIBRARY

Math library (*libm*, −*lm*)

SYNOPSIS

#include <complex.h>

double complex casinh(double complex *z***);**
float complex casinhf(float complex *z***);**
long double complex casinhl(long double complex *z***);**

DESCRIPTION

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

One has:

```
casinh(z) = clog(z + csqrt(z * z + 1))
```

VERSIONS

These functions were added in glibc 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

STANDARDS

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

SEE ALSO

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