

**NAME**

csin, csinf, csinl – complex sine function

**SYNOPSIS**

```
#include <complex.h>
```

```
double complex csin(double complex z);
```

```
float complex csinf(float complex z);
```

```
long double complex csinl(long double complex z);
```

Link with `-lm`.

**DESCRIPTION**

These functions calculate the complex sine of  $z$ .

The complex sine function is defined as:

$$\operatorname{csin}(z) = (\exp(i * z) - \exp(-i * z)) / (2 * i)$$

**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
<code>csin()</code> , <code>csinf()</code> , <code>csinl()</code>	Thread safety	MT-Safe

**CONFORMING TO**

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

**SEE ALSO**

[cabs\(3\)](#), [casin\(3\)](#), [ccos\(3\)](#), [ctan\(3\)](#), [complex\(7\)](#)

**COLOPHON**

This page is part of release 4.16 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/>.