

**NAME**

csin, csinf, csinl – complex sine function

**LIBRARY**

Math library (*libm*, *-lm*)

**SYNOPSIS**

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

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

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

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

**DESCRIPTION**

These functions calculate the complex sine of *z*.

The complex sine function is defined as:

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

**ATTRIBUTES**

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

| Interface                | Attribute     | Value   |
|--------------------------|---------------|---------|
| csin(), csinf(), csinl() | Thread safety | MT-Safe |

**STANDARDS**

C11, POSIX.1-2008.

**HISTORY**

glibc 2.1. C99, POSIX.1-2001.

**SEE ALSO**

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