

**NAME**

`csqrt`, `csqrtf`, `csqrtl` – complex square root

**SYNOPSIS**

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

```
double complex csqrt(double complex z);
```

```
float complex csqrtf(float complex z);
```

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

Link with `-lm`.

**DESCRIPTION**

These functions calculate the complex square root of  $z$ , with a branch cut along the negative real axis. (That means that  $csqrt(-1+eps*I)$  will be close to  $I$  while  $csqrt(-1-eps*I)$  will be close to  $-I$ , if  $eps$  is a small positive real number.)

**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>csqrt()</code> , <code>csqrtf()</code> , <code>csqrtl()</code>	Thread safety	MT-Safe

**CONFORMING TO**

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

**SEE ALSO**

[cabs\(3\)](#), [cexp\(3\)](#), [complex\(7\)](#)

**COLOPHON**

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