

NAG Fortran Library Routine Document

F06CCF

Note: before using this routine, please read the Users' Note for your implementation to check the interpretation of ***bold italicised*** terms and other implementation-dependent details.

1 Purpose

F06CCF reconstructs the parameters c (real) and s (complex) of a complex plane rotation, from the value of the tangent t , as returned by F06CAF:

$$c = \frac{1}{\sqrt{1 + |t|^2}}, \quad s = ct,$$

so that c is always real and non-negative.

If $|t| < \sqrt{\epsilon}$, where ϵ is the ***machine precision***, the routine sets $c = 1$ and $s = t$.

2 Specification

```
SUBROUTINE F06CCF (T, C, S)
  double precision      C
  complex*16          T, S
```

3 Description

None.

4 References

None.

5 Parameters

- | | | |
|----|---|---------------|
| 1: | T – <i>complex*16</i>
<i>On entry:</i> the value t , the tangent of the rotation. | <i>Input</i> |
| 2: | C – <i>double precision</i>
<i>On exit:</i> the value c , the cosine of the rotation. | <i>Output</i> |
| 3: | S – <i>complex*16</i>
<i>On exit:</i> the value s , the sine of the rotation. | <i>Output</i> |

6 Error Indicators and Warnings

None.