**Description**

`epsilon(x)` returns the unit roundoff error in quantities of size `abs(x)`.

**Syntax**

```
real scalar epsilon(real scalar x)
```

**Remarks and examples**

On all computers on which Stata and Mata are currently implemented—which are computers following IEEE standards—`epsilon(1)` is 1.0X–34, or about 2.22045e–16. This is the smallest amount by which a real number can differ from 1.

`epsilon(x)` is `abs(x)*epsilon(1)`. This is an approximation of the smallest amount by which a real number can differ from `x`. The approximation is exact at integer powers of 2.

**Conformability**

`epsilon(x)`:

```
x: 1 × 1
result: 1 × 1
```

**Diagnostics**

`epsilon(x)` returns . if `x` is missing.

**Also see**

[M-5] `edittozero()` — Edit matrix for roundoff error (zeros)

[M-5] `mindouble()` — Minimum and maximum nonmissing value

[M-4] `Utility` — Matrix utility functions