

# Type Info

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\pytorch-master\docs\source\pytorch-master) (docs) (source) type\_info.rst, line 1)**

Unknown directive type "currentmodule".

```
.. currentmodule:: torch
```

The numerical properties of a `:class:`torch.dtype`` can be accessed through either the `:class:`torch.info`` or the `:class:`torch.iinfo``.

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## torch.info

A `:class:`torch.info`` is an object that represents the numerical properties of a floating point `:class:`torch.dtype``, (i.e. `torch.float32`, `torch.float64`, `torch.float16`, and `torch.bfloat16`). This is similar to `numpy.info`.

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A `:class:`torch.info`` provides the following attributes:

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Name	Type	Description
bits	int	The number of bits occupied by the type.
eps	float	The smallest representable number such that <code>1.0 + eps != 1.0</code> .
max	float	The largest representable number.
min	float	The smallest representable number (typically <code>-max</code> ).
tiny	float	The smallest positive normal number. See notes.
resolution	float	The approximate decimal resolution of this type, i.e., <code>10**(-precision)</code> .

### Note

The constructor of `:class:`torch.info`` can be called without argument, in which case the class is created for the pytorch default dtype (as returned by `:func:`torch.get_default_dtype``).

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(source) type\_info.rst, line 34); [backlink](#)

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#### Note

*tiny* returns the smallest *normal* number, but there are smaller subnormal numbers. See [https://en.wikipedia.org/wiki/Denormal\\_number](https://en.wikipedia.org/wiki/Denormal_number) for more information.

## torch.iinfo

A `:class:`torch.iinfo`` is an object that represents the numerical properties of a integer `:class:`torch.dtype`` (i.e. `torch.uint8`, `torch.int8`, `torch.int16`, `torch.int32`, and `torch.int64`). This is similar to `numpy.iinfo`.

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A `:class:`torch.iinfo`` provides the following attributes:

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Name	Type	Description
bits	int	The number of bits occupied by the type.
max	int	The largest representable number.
min	int	The smallest representable number.