```
with(inttrans) :
assume(a > 0); assume(t0 > 0);
ricker := (1 - 2 a (t - t0)^2) exp( -a (t - t0)^2 );
```

$$\left(1 - 2\,a\sim\,(t - t0\sim)^2\right)\,\mathrm{e}^{-a\sim\,(t - t0\sim)^2} \tag{1}$$

```
simplify( fourier(ricker, t, omega) );
```

$$\frac{1}{2}\,\frac{\mathrm{e}^{-\frac{1}{4}\,\frac{\omega\,(4\,\mathrm{I}\,t0\sim a\sim + \omega)}{a\sim}}\,\sqrt{\pi}\,\omega^2}{a\sim^{3/2}} \tag{2}$$

This is its Fourier transform