```
RussellsParadox_Frege  THM

⊢  ¬(∃A:Type, Q:(A→A→Prop).
|    ∀P:(A→Prop). ∃p:A. ∀x:A. Q(x,p) ⟺ P(x))  by Analyze
|
1. A : Type
2. Q : A→A→Prop
3. ∀P:(A→Prop). ∃p:A. ∀x:A. Q(x,p) ⟺ P(x)
⊢  False  by Inst: Hyp:3 Using:[P(x):= ¬Q(x,x)] THEN Reduce Hyp:3
|
4. ∃p:A. ∀x:A. Q(x,p) ⟺ ¬Q(x,x)
⊢  False  by Analyze4
|
4. p : A
5. ∀x:A. Q(x,p) ⟺ ¬Q(x,x)
⊢  False  by Witness5: p
|
5. Q(p,p) ⟺ ¬Q(p,p)
⊢  False  by Thm*  ¬(P ⟺ ¬P)    {no_prop_iff_its_neg}  Asserted
|
6. ∀P:Prop. ¬(P ⟺ ¬P)
⊢  False  by Witness6: Q(p,p) {← contradicting Hyp:5 }
END
```