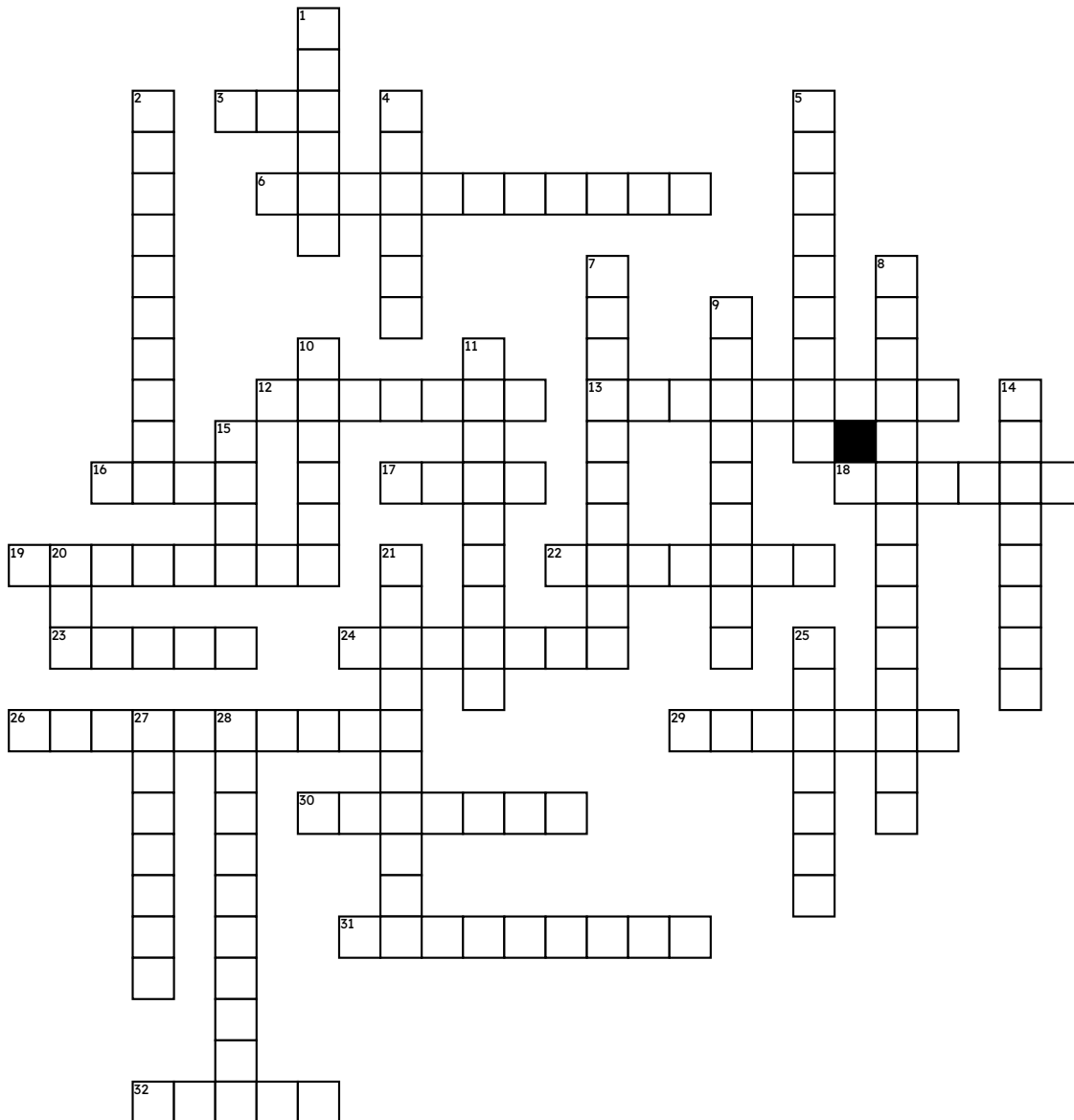


067-E105 Semiconductors



Across

3. Not a needle, but a type of diode.

6. Like 30-across; 5 electrons on the outside.

12. A voltage wall that must be overcome to move forward.

13. Pure semiconductor material.

16. Gain, after Greek A.

17. These are controlled by voltage, not current.

18. Adding impurity to semiconductor material

19. Cutoff circuits; hair trimmers; a basketball team

22. Element: Ga

23. A device like a one-way street for electrons.

24. The electrons farthest away from the nucleus

26. A whole family of triggers and switches.

29. Element: Si

30. Element: As

31. Too much voltage in the wrong direction.

32. It's a diode made to work in breakdown.

Down

1. There's negative resistance inside this diode. No light at the end of it.

2. This device has seen the light.

4. When no current flows in a transistor, it's in this mode.

5. Like 22-across; 3 electrons on the outside.

7. Works like a switch while having no moving parts.

8. Materials with conductivity that is better than insulators but poorer than conductors.

9. Element: Ge

10. A doctor once asked for sharks equipped with these devices.

11. Circuit for AC to DC

14. Where N and P meet.

15. A small signal here on a BJT can have a big effect.

20. This device shines. Not bad for three letters.

21. It's the T in "BJT"

25. On a BJT, where the arrow is.

27. When semiconductors can't handle the heat, they _____.

28. When too much current flows in a transistor, it's in this mode.