067-E105 Semiconductors

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| **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. |