Part 1

a)

Diode Parameters

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| 1 | Vf | Forward Voltage:  The voltage drop observed at diode when it is on. |
| 2 | VR | Reverse Voltage/Breakdown Voltage:  The maximum voltage that diode can withstand in off region before avalanche breakdown occurs. |
| 3 | trr | Reverse Recovery Time:  Amount of time passes after diode turns off, lets negative current and stops passing. |
| 4 | Irr | Reverse Recovery Current:  Maximum amount of negative current passes through the diode in reverse recovery. |
| 5 | Tj | Maximum Operating Junction Temperature:  The highest temperature diode can operate under without it break down. |
| 6 | S | Softness Factor:  The value that shows the characteristics of of diode’s reverse recovery. If S=1, recovery oscillations are very small, so the recovery is soft, if S<1, oscillations are high and the recovery is fast. |
| 7 | IR | Reverse Leakage Current:  The current that is flowing through diode while it is off. It is usually very small. |
| 8 | Rth | Thermal Resistance Parameter:  Indicates the temperature increase per watts of power dissipated from diode. |
| 9 | IFRM | Repetitive Peak Forward Current:  The amount of current that can pass through diode, but for a extremely short time(in µs terms), without permanently damaging or destroying it. |
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