

New Jersey Semi-Conductor Products, Inc.

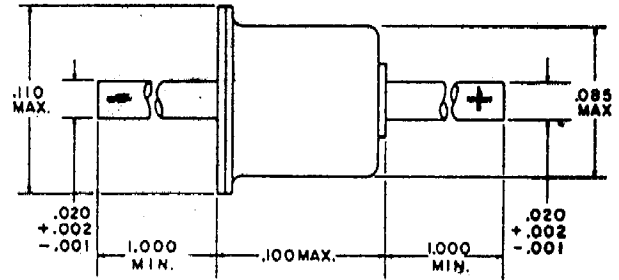
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Germanium Diodes

1N3712-21

AXIAL DIODE OUTLINE



ALL DIMENSIONS IN INCHES.
DIMENSIONS ARE REFERENCE UNLESS TOLERANCED.

1N3712 1N3714 1N3716 1N3718 1N3720
1N3713 1N3715 1N3717 1N3719 1N3721

| | | | | | | |
|--|-----------------|----|-----|----|-----|----|
| Forward Current* | 5 | 10 | .25 | 50 | 100 | ma |
| Reverse Current* | 10 | 20 | 50 | 50 | 100 | ma |
| Storage Temperature | ← -55 to +100 → | | | | | °C |
| Lead Temperature $\frac{1}{16}'' \pm \frac{1}{32}''$ from case for 10 seconds | ← 260 → | | | | | °C |

*Derate maximum currents 1% per °C ambient temperature above 25°C.

electrical characteristics:

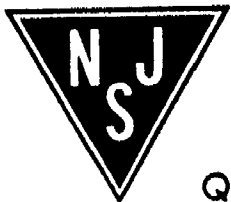
| STATIC CHARACTERISTICS | | 1N3712 | | | 1N3713 | | | 1N3714 | | | 1N3715 | | |
|-------------------------------------|---------------------------------------|--------|------|------|--------|-------|-------|--------|------|------|--------|------|------|
| | | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. |
| Peak Point Current | I_P | 0.9 | 1.0 | 1.1 | 0.975 | 1.000 | 1.025 | 2.0 | 2.2 | 2.4 | 2.15 | 2.20 | 2.25 |
| Valley Point Current | I_V | | 0.12 | 0.18 | .075 | .095 | .140 | 0.29 | 0.48 | .165 | .210 | .310 | |
| Peak Point Voltage | V_P | | 65 | | 58 | 65 | 72 | 65 | | 58 | 65 | 72 | |
| Valley Point Voltage | V_V | | 350 | | 315 | 355 | 395 | 350 | | 315 | 355 | 395 | |
| Reverse Voltage ($I_R = I_P$ typ.) | V_R | | | 40 | | 20 | 40 | | | 40 | | 20 | 40 |
| Forward Voltage ($I_F = I_P$ typ.) | V_{FR} | | 500 | | 475 | 510 | 535 | 500 | | 475 | 510 | 535 | |
| | ($I_F = .25 I_P$ typ.) V_{FS}^{**} | | | | 410 | 450 | | | | | 410 | 450 | |

DYNAMIC CHARACTERISTICS

| | | | | | | | | | | | | | |
|------------------------------------|-----------------|--|-----|-----|-----|-----|-----|--|-----|-----|----|-----|------|
| Total Series Inductance | L_s | | 0.5 | | 0.5 | | 0.5 | | 0.5 | | | | |
| Total Series Resistance | R_s | | 1.5 | 4.0 | | 1.7 | 4.0 | | 1.0 | 3.0 | | 1.1 | 3.0 |
| Valley Point Terminal Capacitance | C | | 5 | 10 | | 3.5 | 5.0 | | 10 | 25 | | 7.0 | 10.0 |
| Max. Negative Terminal Conductance | $-G$ | | 8 | | 7.5 | 8.5 | 9.5 | | 18 | | 16 | 19 | 22 |
| Resistive Cutoff Frequency | f_{cr} | | 2.3 | | 3.2 | | 2.2 | | 3.0 | | | | |
| Self-Resonant Frequency | f_{sr} | | 3.2 | | 3.8 | | 2.2 | | 2.7 | | | | |
| Frequency of Oscillation | F_{osc}^{***} | | 3.2 | | 3.8 | | 2.2 | | 2.7 | | | | |
| Rise Time | t_r^{***} | | | | 1.7 | | | | 1.6 | | | | |

* V_{FK} is defined as the value of forward voltage at a forward current of one quarter the typical peak current.

**The frequency of oscillation (under short circuit conditions) for steady state large signal sinusoidal oscillation is given by equation (3) which is the maximum frequency attainable without capacitance compensation.



Quality Semi-Conductors