

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

PN6119-18R  
PN6120-18R

PNPN SILICON  
PROGRAMMABLE UJT

JEDEC TO-92-18R CASE (AGK)

## DESCRIPTION

The CENTRAL SEMICONDUCTOR PN6119-18R, PN6120-18R types are silicon PNP programmable unijunction transistors designed for pulse and oscillator applications. These devices are designed to be exact pin for pin replacements for the 2N6119, 2N6120 respectively, in an epoxy case.

## MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ )

|                                                  | SYMBOL         |             | UNIT             |
|--------------------------------------------------|----------------|-------------|------------------|
| Gate-Cathode Forward Voltage                     | $V_{GKF}$      | 40          | V                |
| Anode-Cathode Voltage                            | $V_{AK}$       | $\pm 40$    | V                |
| Gate-Anode Reverse Voltage                       | $V_{GAR}$      | 40          | V                |
| Gate-Cathode Reverse Voltage                     | $V_{GKR}$      | 5.0         | V                |
| DC Forward Anode Current                         | $I_T$          | 300         | mA               |
| DC Gate Current                                  | $I_G$          | $\pm 50$    | mA               |
| Peak Repetitive Forward Current (PW=10 $\mu$ s)  | $I_{TRM}$      | 8.0         | A                |
| Peak Repetitive Forward Current (PW=100 $\mu$ s) | $I_{TRM}$      | 5.0         | A                |
| Power Dissipation                                | $P_D$          | 400         | mW               |
| Operating and Storage Junction Temperature       | $T_J, T_{STG}$ | -65 TO +150 | $^\circ\text{C}$ |

## ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

| SYMBOL    | TEST CONDITIONS                         | PN6119-18R |     | PN6120-18R |      | UNIT          |
|-----------|-----------------------------------------|------------|-----|------------|------|---------------|
|           |                                         | MIN        | MAX | MIN        | MAX  |               |
| $I_P$     | $V_S=10\text{V}, R_G=1.0\text{M}\Omega$ |            | 2.0 |            | 0.15 | $\mu\text{A}$ |
| $I_P$     | $V_S=10\text{V}, R_G=10\text{k}\Omega$  |            | 5.0 |            | 1.0  | $\mu\text{A}$ |
| $V_T$     | $V_S=10\text{V}, R_G=1.0\text{M}\Omega$ | 0.2        | 1.6 | 0.2        | 0.6  | V             |
| $V_T$     | $V_S=10\text{V}, R_G=10\text{k}\Omega$  | 0.2        | 1.6 | 0.2        | 0.6  | V             |
| $I_V$     | $V_S=10\text{V}, R_G=1.0\text{M}\Omega$ |            | 50  |            | 25   | $\mu\text{A}$ |
| $I_V$     | $V_S=10\text{V}, R_G=10\text{k}\Omega$  | 70         |     | 25         |      | $\mu\text{A}$ |
| $I_V$     | $V_S=10\text{V}, R_G=200\Omega$         | 1.5        |     | 1.0        |      | mA            |
| $I_{GA0}$ | $V_S=40\text{V}$                        |            | 10  |            | 10   | nA            |
| $I_{GA0}$ | $V_S=40\text{V}, T_A=75^\circ\text{C}$  |            | 100 |            | 100  | nA            |
| $I_{GKS}$ | $V_S=40\text{V}$                        |            | 100 |            | 100  | nA            |
| $V_F$     | $I_F=50\text{mA}$                       |            | 1.0 |            | 1.0  | V             |
| $V_O$     | $V_B=20\text{V}, C_C=0.2\mu\text{F}$    | 9.0        |     | 9.0        |      | V             |
| $t_r$     | $V_B=20\text{V}, C_C=0.2\mu\text{F}$    |            | 80  |            | 80   | ns            |

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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