

## CENTRAL SEMICONDUCTOR

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**UNIUNCTION TRANSISTORS (UJT)s** are highly stable trigger devices designed for use in a variety of applications over a wide temperature range. These applications include: Pulse Generators, Saw Tooth Generators, Frequency Dividers, Timing Circuits, and Oscillators. Central Semiconductor UJT's are available in hermetically sealed metal packages as well as a low cost epoxy molded package.

**PROGRAMMABLE UNIUNCTION TRANSISTORS (PUT)s** are similar to UJT's except that three parameters, Valley Point Current ( $I_V$ ), Peak Point Current ( $I_P$ ) and Intrinsic Standoff Ratio ( $\eta$ ) are adjustable (programmable) by simply selecting two resistor values. Central Semiconductor PUT's offer low Leakage and Peak Point Current in a low cost epoxy molded package.

## INDEX

| TYPE NO. | TABLE | TYPE NO. | TABLE | TYPE NO. | TABLE | TYPE NO. | TABLE | TYPE NO. | TABLE | TYPE NO. | TABLE |
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| 2N489    | A     | 2N492C   | A     | 2N2417   | B     | 2N2421A  | B     | 2N3483   | A     | 2N6027   | D     |
| 2N489A   | A     | 2N493    | A     | 2N2417A  | B     | 2N2421B  | B     | 2N3484   | A     | 2N6028   | D     |
| 2N489B   | A     | 2N493A   | A     | 2N2417B  | B     | 2N2422   | B     | 2N3980   | B     | A7T6027  | D     |
| 2N490    | A     | 2N493B   | A     | 2N2418   | B     | 2N2422A  | B     | 2N4851   | B     | A7T6028  | D     |
| 2N490A   | A     | 2N494    | A     | 2N2418A  | B     | 2N2422B  | B     | 2N4852   | B     | MU10     | C     |
| 2N490B   | A     | 2N494A   | A     | 2N2418B  | B     | 2N2646   | B     | 2N4853   | B     | MU20     | B     |
| 2N490C   | A     | 2N494B   | A     | 2N2419   | B     | 2N2647   | B     | 2N4870   | C     | MU2646   | C     |
| 2N491    | A     | 2N494C   | A     | 2N2419A  | B     | 2N2840   | B     | 2N4871   | C     | MU2646M  | B     |
| 2N491A   | A     | 2N1671   | A     | 2N2419B  | B     | 2N3479   | A     | 2N4947   | B     | MU4891   | C     |
| 2N491B   | A     | 2N1671A  | A     | 2N2420   | B     | 2N3480   | A     | 2N4948   | B     | MU4892   | C     |
| 2N492    | A     | 2N1671B  | A     | 2N2420A  | B     | 2N3481   | A     | 2N4949   | B     | MU4893   | C     |
| 2N492A   | A     | 2N1671C  | A     | 2N2420B  | B     | 2N3482   | A     | 2N5431   | B     | MU4894   | C     |
| 2N492B   | A     | 2N2160   | A     | 2N2421   | B     |          |       |          |       |          |       |

TABLE A

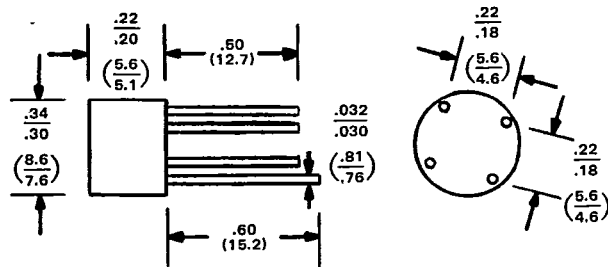
## UNIUNCTION TRANSISTORS

TO-5 CASE

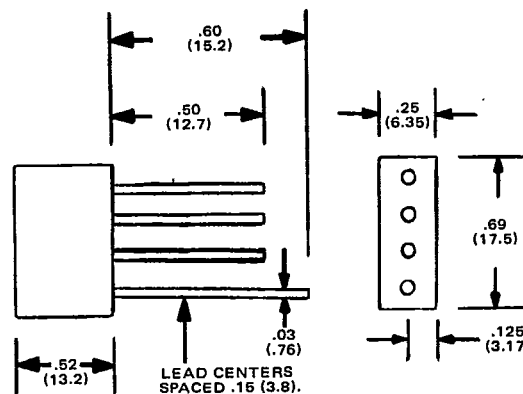
| TYPE    | INTRINSIC<br>STANDOFF RATIO<br>$\eta$ |      | INTERBASE<br>RESISTANCE<br>$r_{BB}$ |            | PEAK-POINT<br>CURRENT<br>$I_P$ | EMITTER<br>REV. CURRENT<br>$I_{EB20 @ V_{B2E}}$ |    | VALLEY-POINT<br>CURRENT<br>$I_V$ | BASE 1 PEAK<br>VOLTAGE<br>$V_{OB1}$ | CASE                                                                                  |
|---------|---------------------------------------|------|-------------------------------------|------------|--------------------------------|-------------------------------------------------|----|----------------------------------|-------------------------------------|---------------------------------------------------------------------------------------|
|         | MIN.                                  | MAX. | MIN.                                | MAX.       | MAX.                           | MAX.                                            |    | MIN.                             | MIN.                                |                                                                                       |
|         |                                       |      | k $\Omega$                          | k $\Omega$ | $\mu A$                        | $\mu A$                                         | V  | mA                               | V                                   |                                                                                       |
| 2N489   | 0.51                                  | 0.62 | 4.7                                 | 6.8        | 12                             | 2.0                                             | 60 | 8.0                              | —                                   |  |
| 2N489A  | 0.51                                  | 0.62 | 4.7                                 | 6.8        | 12                             | 2.0                                             | 60 | 8.0                              | 3.0                                 |                                                                                       |
| 2N489B  | 0.51                                  | 0.62 | 4.7                                 | 6.8        | 6.0                            | 0.2                                             | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N490   | 0.51                                  | 0.62 | 6.2                                 | 9.1        | 12                             | 2.0                                             | 60 | 8.0                              | —                                   |                                                                                       |
| 2N490A  | 0.51                                  | 0.62 | 6.2                                 | 9.1        | 12                             | 2.0                                             | 60 | 8.0                              | 3.0                                 |                                                                                       |
| 2N490B  | 0.51                                  | 0.62 | 6.2                                 | 9.1        | 6.0                            | 0.2                                             | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N490C  | 0.51                                  | 0.62 | 6.2                                 | 9.1        | 2.0                            | 0.02                                            | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N491   | 0.56                                  | 0.68 | 4.7                                 | 6.8        | 12                             | 2.0                                             | 60 | 8.0                              | —                                   |                                                                                       |
| 2N491A  | 0.56                                  | 0.68 | 4.7                                 | 6.8        | 12                             | 2.0                                             | 60 | 8.0                              | 3.0                                 |                                                                                       |
| 2N491B  | 0.56                                  | 0.68 | 4.7                                 | 6.8        | 6.0                            | 0.2                                             | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N492   | 0.56                                  | 0.68 | 6.2                                 | 9.1        | 12                             | 2.0                                             | 60 | 8.0                              | —                                   |                                                                                       |
| 2N492A  | 0.56                                  | 0.68 | 6.2                                 | 9.1        | 12                             | 2.0                                             | 60 | 8.0                              | 3.0                                 |                                                                                       |
| 2N492B  | 0.56                                  | 0.68 | 6.2                                 | 9.1        | 6.0                            | 0.2                                             | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N492C  | 0.56                                  | 0.68 | 6.2                                 | 9.1        | 2.0                            | 0.02                                            | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N493   | 0.62                                  | 0.75 | 4.7                                 | 6.8        | 12                             | 2.0                                             | 60 | 8.0                              | —                                   |                                                                                       |
| 2N493A  | 0.62                                  | 0.75 | 4.7                                 | 6.8        | 12                             | 2.0                                             | 60 | 8.0                              | 3.0                                 |                                                                                       |
| 2N493B  | 0.62                                  | 0.75 | 4.7                                 | 6.8        | 6.0                            | 0.2                                             | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N494   | 0.62                                  | 0.75 | 6.2                                 | 9.1        | 12                             | 2.0                                             | 60 | 8.0                              | —                                   |                                                                                       |
| 2N494A  | 0.62                                  | 0.75 | 6.2                                 | 9.1        | 12                             | 2.0                                             | 60 | 8.0                              | 3.0                                 |                                                                                       |
| 2N494B  | 0.62                                  | 0.75 | 6.2                                 | 9.1        | 6                              | 0.2                                             | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N494C  | 0.62                                  | 0.75 | 6.2                                 | 9.1        | 2.0                            | 0.02                                            | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N1671  | 0.47                                  | 0.62 | 4.7                                 | 9.1        | 25                             | 12                                              | 30 | 8.0                              | —                                   |                                                                                       |
| 2N1671A | 0.47                                  | 0.62 | 4.7                                 | 9.1        | 25                             | 12                                              | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N1671B | 0.47                                  | 0.62 | 4.7                                 | 9.1        | 6.0                            | 0.2                                             | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N1671C | 0.47                                  | 0.62 | 4.7                                 | 9.1        | 2.0                            | 0.02                                            | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N2160  | 0.47                                  | 0.80 | 4.0                                 | 12         | 25                             | 12                                              | 30 | 8.0                              | 3.0                                 |                                                                                       |
| 2N3479  | 0.47                                  | 0.62 | 4.7                                 | 9.1        | 20                             | 12                                              | 30 | 4.0                              | 3.0                                 |                                                                                       |
| 2N3480  | 0.56                                  | 0.75 | 4.7                                 | 9.1        | 20                             | 12                                              | 30 | 4.0                              | 3.0                                 |                                                                                       |
| 2N3481  | 0.70                                  | 0.85 | 4.7                                 | 9.1        | 20                             | 12                                              | 30 | 4.0                              | 3.0                                 |                                                                                       |
| 2N3482  | 0.51                                  | 0.62 | 4.7                                 | 6.8        | 2.0                            | 0.02                                            | 30 | 4.0                              | 4.0                                 |                                                                                       |
| 2N3483  | 0.60                                  | 0.72 | 4.7                                 | 9.1        | 5.0                            | 1.0                                             | 30 | 4.0                              | 4.0                                 |                                                                                       |
| 2N3484  | 0.70                                  | 0.85 | 6.2                                 | 9.1        | 5.0                            | 0.2                                             | 30 | 4.0                              | 6.0                                 |                                                                                       |

## CASE OUTLINE DRAWINGS

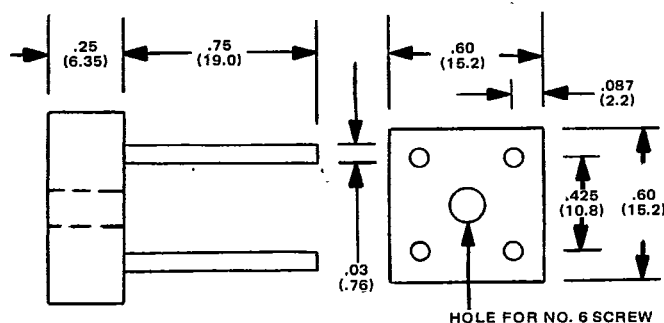
D



CASE A

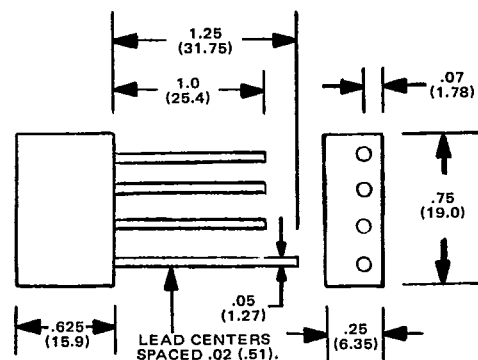
CBR1 Series  
CBR2 Series

CASE B

CBR1-L Series  
CBR2-L Series

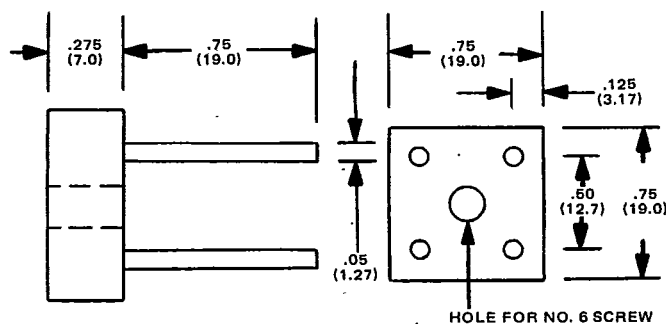
CASE C

CBR3-P Series



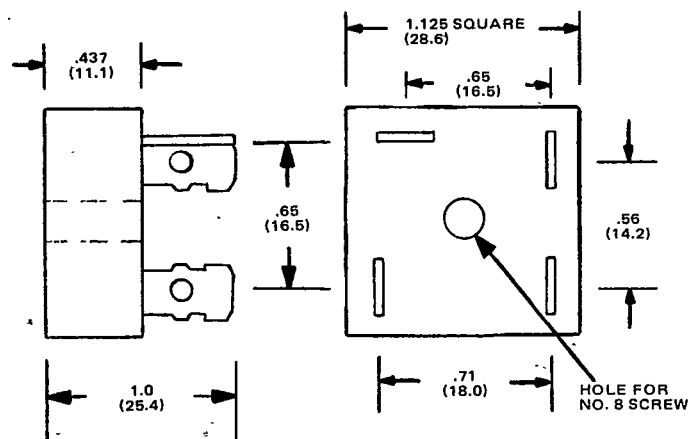
CASE D

CBR4-L Series



CASE E

CBR8 Series



CASE F

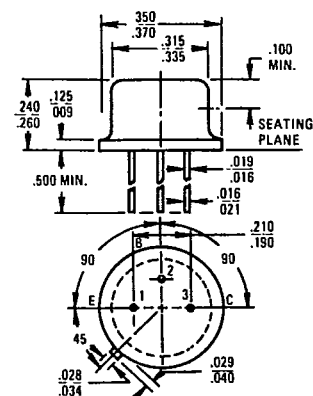
CBR10 Series, CBR25 Series  
CBR12 Series, CBR30 Series

All Dimensions in Inches (Millimeters)

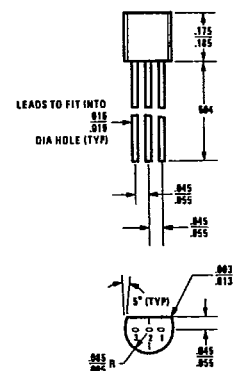
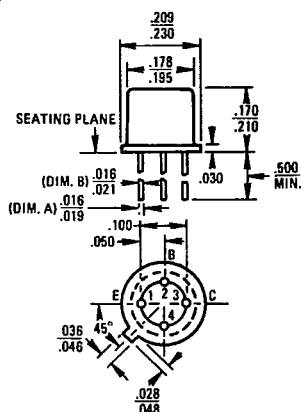
Drawings Not To Scale

## カ

TO-39



TO-92



TO-106

