

## NPN EPOXY - LOW NOISE LEVEL AMPLIFIER (Cont'd.)

T-31-01 D

| TYPE NO. | V <sub>CB</sub> | V <sub>CE</sub> | V <sub>EB</sub> | h <sub>FE</sub> at I <sub>C</sub> |      | V <sub>CE</sub> | V <sub>CE(s)</sub> at I <sub>C</sub> |      | f <sub>T</sub> | C <sub>ob</sub> | NF  | t <sub>off</sub> | I <sub>CBO</sub> at V <sub>CB</sub> |    | CASE   |
|----------|-----------------|-----------------|-----------------|-----------------------------------|------|-----------------|--------------------------------------|------|----------------|-----------------|-----|------------------|-------------------------------------|----|--------|
|          | V               | V               | V               | min                               | max  | V               | V                                    | mA   | MHz            | pF              | dB  | nS               | μA                                  | V  |        |
| 2N5088   | 30              | 30              | 4               | 300                               | 900  | 0.1             | 10                                   | —    | —              | —               | 3.0 | —                | —                                   | —  | TO-92  |
| 2N5089   | 25              | 25              | 4               | 40                                | 1200 | 0.1             | 10                                   | —    | —              | —               | 2.0 | —                | —                                   | —  | TO-92  |
| 2N5127   | 20              | 12              | 3               | 15                                | 300  | 2.0             | 10                                   | 0.3  | —              | 150             | —   | —                | .05                                 | 10 | TO-106 |
| 2N5131   | 20              | 15              | 3               | 30                                | 500  | 10              | 10                                   | 1.0  | —              | 100             | —   | —                | .05                                 | 10 | TO-106 |
| 2N5133   | 20              | 18              | 3               | 60                                | 1000 | 1.0             | 1.0                                  | 0.4  | —              | 40              | —   | —                | .05                                 | 15 | TO-106 |
| 2N5209   | 50              | 50              | 4               | 100                               | 300  | 0.1             | 10                                   | —    | —              | —               | 4.0 | —                | —                                   | —  | TO-92  |
| 2N5210   | 50              | 50              | 4               | 200                               | 600  | 0.1             | 10                                   | —    | —              | —               | 3.0 | —                | —                                   | —  | TO-92  |
| 2N5232   | 50              | 50              | 5               | 250                               | 500  | 2.0             | 5                                    | .125 | 10             | —               | —   | —                | —                                   | —  | TO-98  |
| 2N5232A  | 50              | 50              | 5               | 250                               | 500  | 2.0             | 5                                    | .125 | 10             | —               | 4   | —                | —                                   | —  | TO-98  |
| 2N5376   | 30              | 30              | 5               | 100                               | 500  | 0.01            | 5                                    | 0.2  | 10             | 30              | 8   | —                | —                                   | —  | TO-92P |
| 2N5377   | 30              | 30              | 5               | 40                                | 200  | .01             | 5                                    | 0.2  | 10             | 30              | 8   | —                | —                                   | —  | TO-92P |
| 2N5961   | 60              | 60              | 8               | 100                               | —    | .01             | 10                                   | —    | —              | —               | —   | —                | —                                   | —  | TO-92  |
| 2N5962   | 45              | 45              | 8               | 45                                | —    | .01             | 10                                   | —    | —              | —               | —   | —                | —                                   | —  | TO-92  |

## NPN EPOXY - RF/IF OSCILLATOR

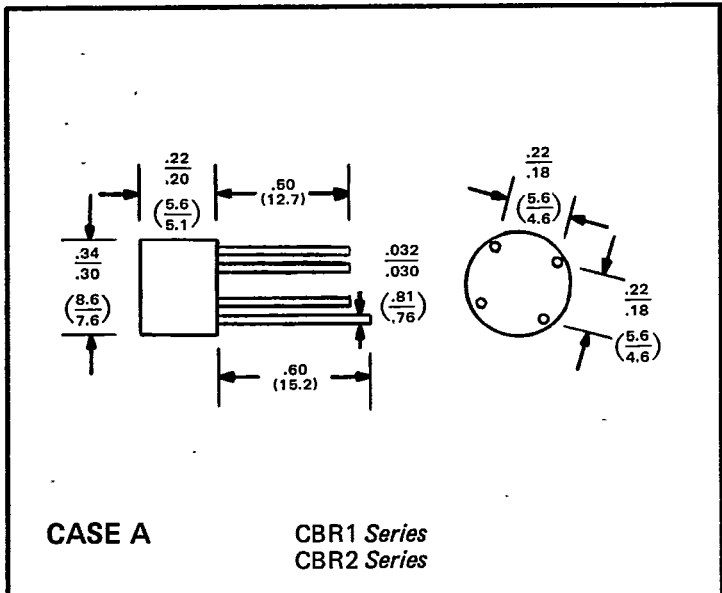
| TYPE NO. | V <sub>CB</sub> | V <sub>CE</sub> | V <sub>EB</sub> | h <sub>FE</sub> at I <sub>C</sub> |     | V <sub>CE</sub> | V <sub>CE(s)</sub> at I <sub>B</sub> |      |    | f <sub>T</sub> | C <sub>ob</sub> | I <sub>CBO</sub> at V <sub>CB</sub> |     | CASE |        |
|----------|-----------------|-----------------|-----------------|-----------------------------------|-----|-----------------|--------------------------------------|------|----|----------------|-----------------|-------------------------------------|-----|------|--------|
|          | V               | V               | V               | min                               | max | V               | V                                    | mA   | mA | MHz            | pF              | μA                                  | V   |      |        |
| 2N3563   | 30              | 12              | 2               | 20                                | 200 | 8               | 10                                   | —    | —  | —              | 600             | 1.7                                 | .05 | 15   | TO-106 |
| 2N3564   | 30              | 15              | 4               | 20                                | 500 | 15              | 10                                   | 0.3  | 2  | 10             | 400             | 3.5                                 | .05 | 15   | TO-106 |
| 2N3693   | 45              | 45              | 4               | 40                                | 160 | 10              | 10                                   | —    | —  | —              | 200             | 6.0                                 | .05 | 30   | TO-106 |
| 2N3694   | 45              | 45              | 4               | 100                               | 400 | 10              | 10                                   | —    | —  | —              | 200             | 6.0                                 | .05 | 30   | TO-106 |
| 2N3843   | 30              | 30              | 4               | 20                                | 40  | 2               | 4.5                                  | 1.0  | 1  | 10             | 60              | 4.0                                 | —   | —    | TO-98  |
| 2N3843A  | 30              | 30              | 4               | 20                                | 40  | 2               | 4.5                                  | 1.0  | 1  | 10             | 60              | 4.0                                 | —   | —    | TO-98  |
| 2N3844   | 30              | 30              | 4               | 35                                | 70  | 2               | 4.5                                  | 1.0  | 1  | 10             | 90              | 4.0                                 | —   | —    | TO-98  |
| 2N3844A  | 30              | 30              | 4               | 35                                | 70  | 2               | 4.5                                  | 1.0  | 1  | 10             | 90              | 4.0                                 | —   | —    | TO-98  |
| 2N3845   | 30              | 30              | 4               | 60                                | 120 | 2               | 4.5                                  | 1.0  | 1  | 10             | 126             | 4.0                                 | —   | —    | TO-98  |
| 2N3845A  | 30              | 30              | 4               | 60                                | 120 | 2               | 4.5                                  | 1.0  | 1  | 10             | 126             | 4.0                                 | —   | —    | TO-98  |
| 2N3854   | 18              | 18              | 4               | 35                                | 70  | 2               | 4.5                                  | 1.0  | 1  | 10             | 100             | 3.5                                 | —   | —    | TO-98  |
| 2N3854A  | 30              | 30              | 4               | 35                                | 70  | 2               | 4.5                                  | 1.0  | 1  | 10             | 100             | 3.5                                 | —   | —    | TO-98  |
| 2N3855   | 18              | 18              | 4               | 60                                | 120 | 2               | 4.5                                  | 1.0  | 1  | 10             | 130             | 3.5                                 | —   | —    | TO-98  |
| 2N3855A  | 30              | 30              | 4               | 60                                | 120 | 2               | 4.5                                  | 1.0  | 1  | 10             | 130             | 3.5                                 | —   | —    | TO-98  |
| 2N3856   | 18              | 18              | 4               | 100                               | 200 | 2               | 4.5                                  | 1.0  | 1  | 10             | 140             | 3.5                                 | —   | —    | TO-98  |
| 2N3856A  | 30              | 30              | 4               | 100                               | 200 | 2               | 4.5                                  | 1.0  | 1  | 10             | 140             | 3.5                                 | —   | —    | TO-98  |
| 2N3858   | 30              | 30              | 4               | 60                                | 120 | 2               | 4.5                                  | 1.0  | 1  | 10             | 90              | 4.0                                 | —   | —    | TO-98  |
| 2N3858A  | 60              | 60              | 6               | 60                                | 120 | 10              | 1.0                                  | 0.25 | 1  | 10             | 90              | 4.0                                 | —   | —    | TO-98  |
| 2N3859   | 30              | 30              | 4               | 100                               | 200 | 2               | 4.5                                  | 1.0  | 1  | 10             | 90              | 4.0                                 | —   | —    | TO-98  |
| 2N3859A  | 60              | 60              | 6               | 100                               | 200 | 10              | 1.0                                  | 0.25 | 1  | 10             | 90              | 4.0                                 | —   | —    | TO-98  |
| 2N3860   | 30              | 30              | 4               | 150                               | 300 | 2               | 4.5                                  | 1.0  | 1  | 10             | 90              | 4.0                                 | —   | —    | TO-98  |
| 2N5130   | 30              | 12              | 3               | 15                                | 250 | 8               | 10                                   | 0.6  | 1  | 10             | 450             | 1.7                                 | .05 | 10   | TO-106 |
| 2N5132   | 20              | 20              | 3               | 30                                | 400 | 10              | 10                                   | 0.2  | 1  | 10             | 200             | 3.5                                 | .05 | 10   | TO-106 |

## PNP EPOXY - SWITCHING AND GENERAL PURPOSE

| TYPE NO. | V <sub>CB</sub> | V <sub>CE</sub> | V <sub>EB</sub> | h <sub>FE</sub> at I <sub>C</sub> |     | V <sub>CE</sub> | V <sub>CE(s)</sub> at I <sub>B</sub> |     |     | f <sub>T</sub> | C <sub>ob</sub> | I <sub>CBO</sub> at V <sub>CB</sub> |      | CASE |        |
|----------|-----------------|-----------------|-----------------|-----------------------------------|-----|-----------------|--------------------------------------|-----|-----|----------------|-----------------|-------------------------------------|------|------|--------|
|          | V               | V               | V               | min                               | max | V               | V                                    | mA  | mA  | MHz            | pF              | μA                                  | V    |      |        |
| 2N3638   | 25              | 25              | 4               | 30                                | —   | 50              | 2                                    | 1.0 | 30  | 300            | 100             | 20                                  | .035 | 15   | TO-105 |
| 2N3638A  | 25              | 25              | 4               | 100                               | —   | 50              | 10                                   | 1.0 | 30  | 300            | 150             | 10                                  | .035 | 15   | TO-105 |
| 2N3644   | 45              | 45              | 5               | 100                               | 300 | 150             | 2                                    | 1.0 | 30  | 300            | 200             | 8                                   | .035 | 30   | TO-105 |
| 2N3645   | 60              | 60              | 5               | 100                               | 300 | 150             | 2                                    | 1.0 | 30  | 300            | 200             | 8                                   | .035 | 50   | TO-105 |
| 2N3702   | 40              | 25              | 5               | 60                                | —   | 50              | 5                                    | —   | —   | —              | 100             | 12                                  | 0.1  | 25   | TO-98  |
| 2N3703   | 50              | 30              | 5               | 30                                | —   | 50              | 5                                    | —   | —   | —              | 100             | 12                                  | 0.1  | 30   | TO-98  |
| 2N3905   | 40              | 40              | 5               | 50                                | 150 | 10              | 10                                   | .25 | 1.0 | 10             | 200             | 4.5                                 | —    | —    | TO-92  |
| 2N3906   | 40              | 40              | 5               | 100                               | 300 | 10              | 10                                   | .25 | 1.0 | 10             | 250             | 4.5                                 | —    | —    | TO-92  |
| 2N4058   | 30              | 30              | 6               | 100                               | —   | 1               | 5                                    | —   | —   | —              | —               | —                                   | 0.1  | 20   | TO-98  |
| 2N4059   | 30              | 30              | 6               | 45                                | —   | 1               | 5                                    | —   | —   | —              | —               | —                                   | 0.1  | 20   | TO-98  |

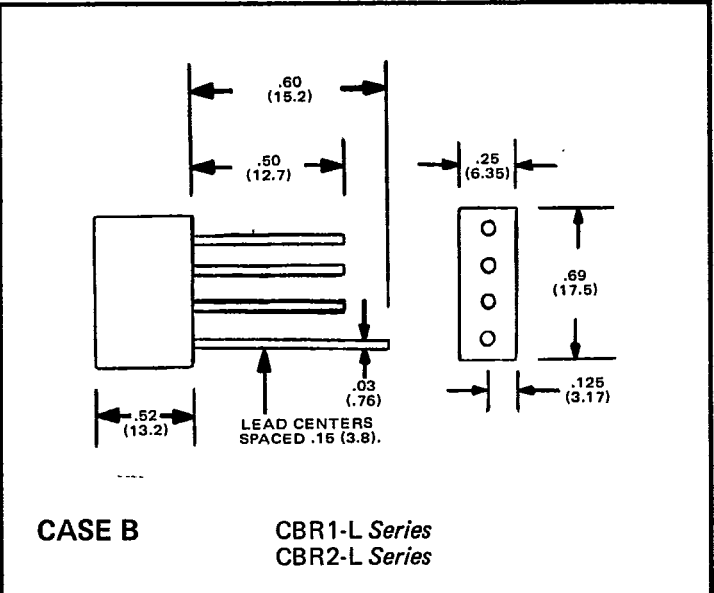
# CASE OUTLINE DRAWINGS

D



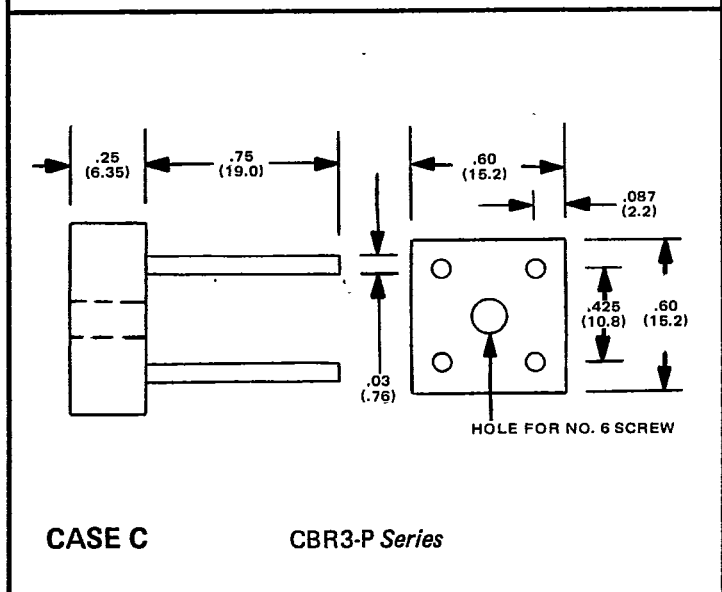
CASE A

CBR1 Series  
CBR2 Series



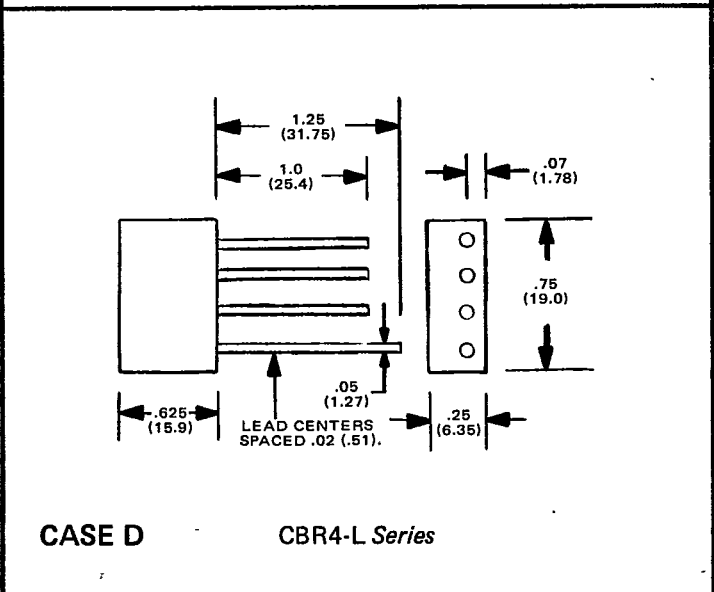
CASE B

CBR1-L Series  
CBR2-L Series



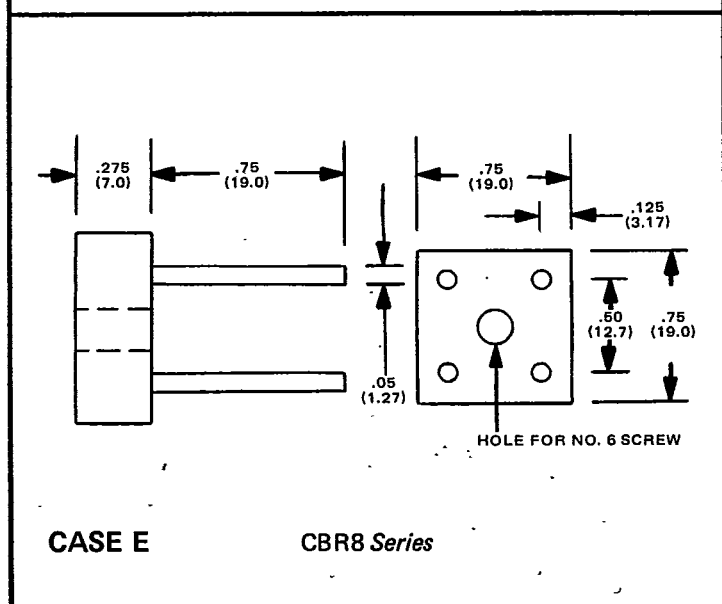
CASE C

CBR3-P Series



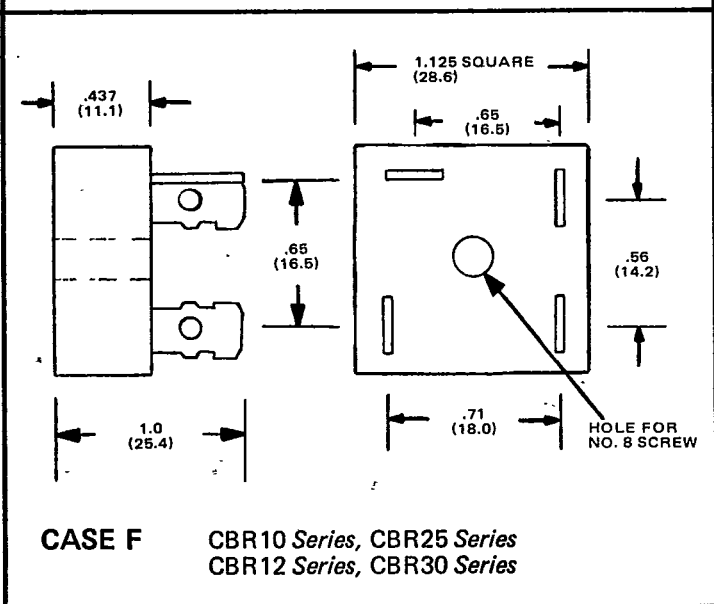
CASE D

CBR4-L Series



CASE E

CBR8 Series



CASE F

CBR10 Series, CBR25 Series  
CBR12 Series, CBR30 Series

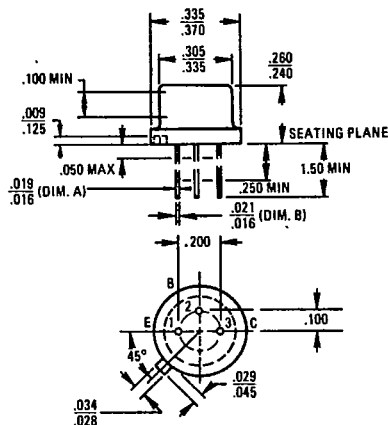
All Dimensions in Inches (Millimeters)

Drawings Not To Scale

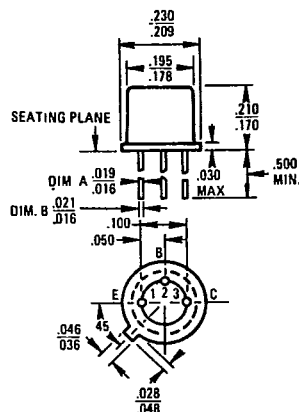
f

MECHANICAL OUTLINE DRAWINGS

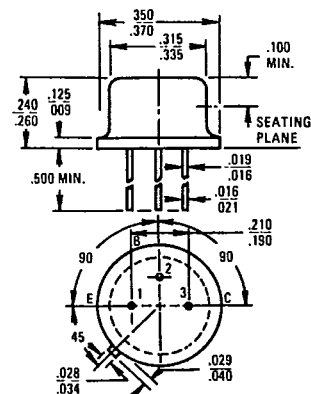
TO-5



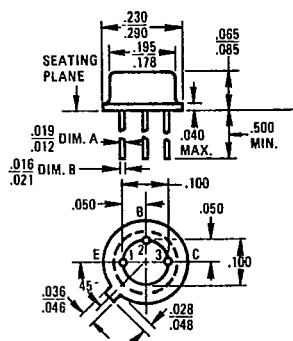
TO-18



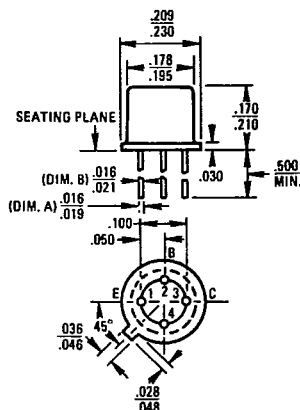
TO-39



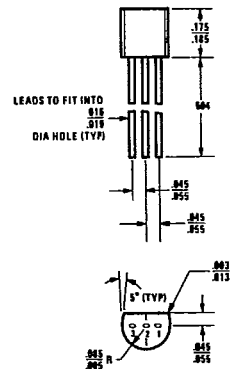
TO-46



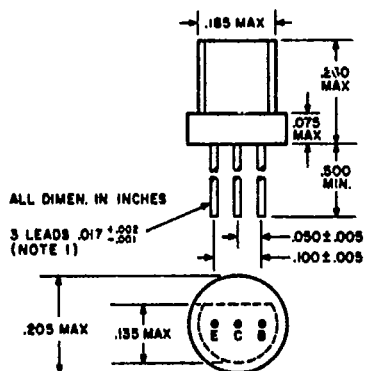
TO-72



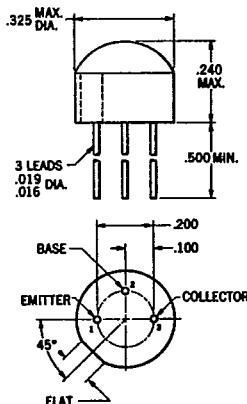
TO-92



TO-98



TO-105



TO-106

