

2N5954-2N5956, 2N6372-2N6374, 2N6465-2N6468, 40829-40831

Silicon N-P-N and P-N-P Medium-Power Transistors

General-Purpose Types for Switching Applications

2N5954, 2N5955, and 2N5956 are multiple-epitaxial p-n-p transistors. 2N6372, 2N6373, and 2N6374 are multiple-epitaxial n-p-n transistors. They are complements to 2N5954, 2N5955, and 2N5956.

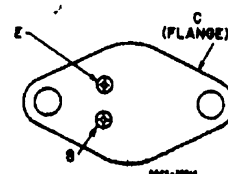
The 2N6465 and 2N6466 are multiple-epitaxial n-p-n transistors. They are complements to the 2N6467, and 2N6468, multiple-epitaxial p-n-p transistors. These devices differ in voltage ratings and in the currents at which the parameters are controlled.

All are supplied in the JEDEC TO-66 package.

Features:

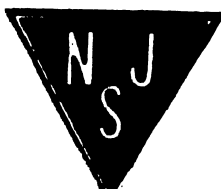
- 2N5954-2N5956 complements to 2N6372-2N6374
- 2N6465, 2N6466 complements to 2N6467, 2N6468
- Low saturation voltages
- Maximum-safe-area-of-operation curves
- Thermal-cycle ratings
- Hermetically-sealed JEDEC TO-66 package

TERMINAL DESIGNATIONS



MAXIMUM RATINGS, Absolute-Maximum Values:

| | N-P-N 2N6374 | | 2N6373 | 2N6372 | 2N6465 | 2N6466 | |
|---|---|---|---|---------------------|---------------------|--------|--|
| | P-N-P 2N5956 [†] 40831 [†] | 2N5955 [†] 40830 [†] | 2N5954 [†] 40829 [†] | 2N6467 [†] | 2N6468 [†] | | |
| V _{CEO} | 50 | 70 | 90 | 110 | 130 | V | |
| V _{CEX} (sus) V _{BE} = -1.5 V, R _{BE} = 100 Ω | 50 | 70 | 90 | 110 | 130 | V | |
| V _{CE} (sus) R _{BE} = 100 Ω | 45 | 65 | 85 | 105 | 125 | V | |
| V _{CEO} (sus) | 40 | 60 | 80 | 100 | 120 | V | |
| V _{EB0} | 5 | 5 | 5 | 5 | 5 | V | |
| I _C | 6 | 6 | 6 | 4 | 4 | A | |
| I _B | 2 | 2 | 2 | 2 | 2 | A | |
| P _T At T _C up to 25°C | 40 | 40 | 40 | 40 | 40 | W | |
| | (2N6374) (2N5956) | (2N6373) (2N5955) | (2N6372) (2N5954) | | | | |
| At T _A up to 25°C | 8.8 | 8.8 | 8.8 | - | - | W | |
| | (40831) | (40830) | (40829) | | | | |
| At T _C above 25°C | Derate linearly to 200°C | | | | | | |
| T _J , T _{mg} | -55 to +200 | | | | | °C | |
| T _L At distances ≥ 1/32 in. (0.8 mm) from seating plane for 10 s max. | +238 | | | | | °C | |



ELECTRICAL CHARACTERISTICS, At Case Temperature (T_C) = 25°C unless otherwise specified

| CHARACTERISTIC | TEST CONDITIONS | | | | LIMITS | | | | | | UNITS |
|---|----------------------------|----------------------|------------------|----------------|---------------------------|------|---------------------------|------|---------------------------|------|-------|
| | VOLTAGE V dc | | CURRENT A dc | | 2N6374 2N5956 40831 | | 2N6373 2N5955 40830 | | 2N6372 2N5954 40829 | | |
| | V _{CE} | V _{BE} | I _C | I _B | Min. | Max. | Min. | Max. | Min. | Max. | |
| I _{CER} R _{BE} =100 Ω | 35 55 75 | | | | - | 100 | - | - | - | - | μA |
| I _{CEx} R _{BE} =100 Ω | 45 65 85 | -1.5 -1.5 -1.5 | | | - | 100 | - | - | - | - | μA |
| R _{BE} =100 Ω T _C =150°C | 45 65 85 | -1.5 -1.5 -1.5 | | | - | 2 | - | 2 | - | 2 | mA |
| I _{CEO} | 25 45 65 | | | | - | 1 | - | 1 | - | 1 | mA |
| I _{EBO} | | -5 | | | - | 0.1 | - | 0.1 | - | 0.1 | mA |
| h _{FE} | 4 | | 3 ^a | | 20 | 100 | - | - | - | - | |
| | 4 | | 2.5 ^a | | - | - | 20 | 100 | - | - | |
| | 4 | | 2 ^a | | - | - | - | - | 20 | 100 | |
| | 4 | | 6 ^a | | 5 | - | 5 | - | 5 | - | |
| V _{CEO(sus)} | | | 0.1 ^a | | 40 ^b | - | 60 ^b | - | 80 ^b | - | V |
| V _{CER(sus)} R _{BE} =100 Ω | | | 0.1 ^a | | 45 ^b | - | 65 ^b | - | 85 ^b | - | |
| V _{CEx(sus)} R _{BE} =100 Ω | | -1.5 | 0.1 ^a | | 50 ^b | - | 70 ^b | - | 90 ^b | - | |
| V _{BE} | | | 3 ^a | | - | 2 | - | - | - | - | V |
| | All types | 4 | 2.5 ^a | | - | - | - | 2 | - | - | |
| | All types | 4 | 2 ^a | | - | - | - | - | - | 2 | |
| | All types 2N6372-2N6374 | 4 | 6 ^a | | - | 3 | - | 3 | - | 3 | |
| V _{CE(sat)} | | | 3 ^a | 0.3 | - | 1 | - | - | - | - | V |
| | | | 2.5 ^a | 0.25 | - | - | - | 1 | - | - | |
| | | | 2 ^a | 0.2 | - | - | - | - | - | 1 | |
| h _{fe} f=1 MHz 2N6372-2N6374 2N5954-56,40829-31 | 4 | | 1 | | 4 | - | 4 | - | 4 | - | |
| | -4 | | -1 | | 5 | - | 5 | - | 5 | - | |
| h _{fe} f=1 kHz | 4 | | 0.5 | | 25 | - | 25 | - | 25 | - | |
| R _{θJC} 2N5954-56, 2N6372-74 | | | | | - | 4.3 | - | 4.3 | - | 4.3 | °C/W |
| R _{θJA} 40829-40831 | | | | | - | 30 | - | 30 | - | 30 | |