

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

| Parameters | Symbol | Value | Unit |
|--|-------------------|-------------|------------------|
| Collector-emitter voltage | V_{CEO} | 60 | V |
| Collector-base voltage | V_{CBO} | 60 | V |
| Emitter-base voltage | V_{EBO} | 5.0 | V |
| Collector current | I_C | 600 | mA |
| Total power dissipation @ $T_A = 25^\circ\text{C}$ | P_T | 0.5 | W |
| Operating and storage temperature range | T_{Jr}, T_{stg} | -65 to +200 | $^\circ\text{C}$ |

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

| Parameters | Symbol | Min | Max | Unit | |
|--|--|----------|---|--|---|
| OFF CHARACTERISTICS | | | | | |
| Collector-emitter breakdown voltage $I_C = 10\text{mA}$ | $V_{(BR)CEO}$ | 60 | - | V | |
| Collector-base cutoff current $V_{CB} = 60\text{V}$ $V_{CB} = 50\text{V}$ | I_{CBO} | - | 10 | μA nA | |
| Emitter-base cutoff current $V_{EB} = 4.0\text{V}$ $V_{EB} = 5.0\text{V}$ | I_{EBO} | - | 50 | nA μA | |
| Collector-emitter-cutoff current $V_{CE} = 50\text{V}$ | I_{CES} | - | 50 | nA | |
| ON CHARACTERISTICS ⁽¹⁾ | | | | | |
| Forward current transfer ratio $I_C = 0.1\text{mA}, V_{CE} = 10\text{V}$ $I_C = 1.0\text{mA}, V_{CE} = 10\text{V}$ $I_C = 10\text{mA}, V_{CE} = 10\text{V}$ $I_C = 150\text{mA}, V_{CE} = 10\text{V}$ $I_C = 500\text{mA}, V_{CE} = 10\text{V}$ | 2N2906(A) 2N2907(A) 2N2906(A) 2N2907(A) 2N2906(A) 2N2907(A) 2N2906(A) 2N2907(A) 2N2906(A) 2N2907(A) | h_{FE} | 40 75 40 100 40 100 40 100 40 50 | - - 175 450 - - 120 300 - - | - |
| Collector-emitter saturation voltage $I_C = 150\text{mA}, I_B = 15\text{mA}$ $I_C = 500\text{mA}, I_B = 50\text{mA}$ | $V_{CE(sat)}$ | - | 0.4 1.6 | V | |
| Base-emitter saturation voltage $I_C = 150\text{mA}, I_B = 15\text{mA}$ $I_C = 500\text{mA}, I_B = 50\text{mA}$ | $V_{BE(sat)}$ | 0.6 - | 1.3 2.6 | V | |

2N2906(A)-2N2907(A)

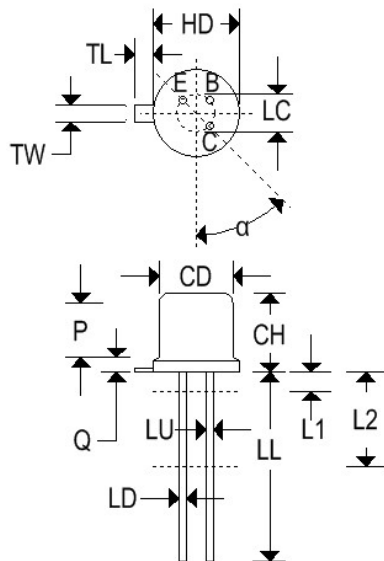
PNP SILICON LOW POWER TRANSISTORS

| Parameters | | Symbol | Min | Max | Unit |
|--|------------------------|------------|-----------|--------|------|
| DYNAMIC CHARACTERISTICS | | | | | |
| Forward current transfer ratio $I_C = 1.0\text{mA}, V_{CE} = 10\text{V}, f = 1.0\text{kHz}$ | 2N2906(A) 2N2907(A) | h_{fe} | 40 100 | - - | - |
| Magnitude of small signal forward current transfer ratio $I_C = 20\text{mA}, V_{CE} = 20\text{V}, f = 100\text{MHz}$ | | $ h_{fe} $ | 2.0 | - | - |
| Output capacitance $V_{CB} = 10\text{V}, I_E = 0, 100\text{kHz} \leq f \leq 1.0\text{MHz}$ | | C_{obo} | - | 8.0 | pF |
| Input capacitance $V_{EB} = 2.0\text{V}, I_C = 0, 100\text{kHz} \leq f \leq 1.0\text{MHz}$ | | C_{ibo} | - | 30 | pF |
| SWITCHING CHARACTERISTICS | | | | | |
| Turn-on time $V_{CC} = 30\text{V}, I_C = 150\text{mA}, I_{B1} = 50\text{mA}$ | | t_{on} | - | 45 | ns |
| Turn-off time $V_{CC} = 30\text{V}, I_C = 150\text{mA}, I_{B1} = -I_{B2} = 50\text{mA}$ | | t_{off} | - | 300 | ns |

Note 1: Pulse test: Pulse width = 300 μ s, duty cycle \leq 2.0%.

MECHANICAL CHARACTERISTICS

| | |
|-----------------|---------------|
| Case | TO-18 |
| Marking | Alpha-numeric |
| Polarity | See below |



| TO-18 | | | | |
|----------|----------|-------|-------------|--------|
| Dim | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| CD | 0.178 | 0.195 | 4.520 | 4.950 |
| CH | 0.170 | 0.210 | 4.320 | 5.330 |
| HD | 0.209 | 0.230 | 5.310 | 5.840 |
| LC | 0.100 TP | | 2.540 TP | |
| LD | 0.016 | 0.021 | 0.410 | 0.530 |
| LL | 0.500 | 0.750 | 12.700 | 19.050 |
| LU | 0.016 | 0.019 | 0.410 | 0.480 |
| L1 | - | 0.050 | - | 1.270 |
| L2 | 0.250 | - | 6.350 | - |
| P | 0.100 | - | 2.540 | - |
| Q | - | 0.040 | - | 1.020 |
| TL | 0.028 | 0.048 | 0.710 | 1.220 |
| TW | 0.036 | 0.046 | 0.910 | 1.170 |
| r | - | 0.010 | - | 0.025 |
| α | 45°TP | | 45°TP | |