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Manufacturers of World Class Discrete Semiconductors

2N2604
2N2605

PNP SILICON TRANSISTOR

JEDEC TO-46 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N2604, 2N2605 types are Silicon PNP Transistors designed for low-level, low noise, high gain amplifier applications.

MAXIMUM RATINGS (T_A = 25°C)

| | SYMBOL | | UNITS |
|---------------------------|-----------------------------------|-------------|-------|
| Collector-Base Voltage | V _{CB0} | 60 | V |
| Collector-Emitter Voltage | V _{CEO} | 45 | V |
| Emitter-Base Voltage | V _{EBO} | 6.0 | V |
| Collector Current | I _C | 30 | mA |
| Power Dissipation | P _D | 400 | mW |
| Operating and Storage | | | |
| Junction Temperature | T _J , T _{stg} | -65 to +200 | °C |
| Thermal Resistance | θ _{JA} | 438 | °C/W |

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

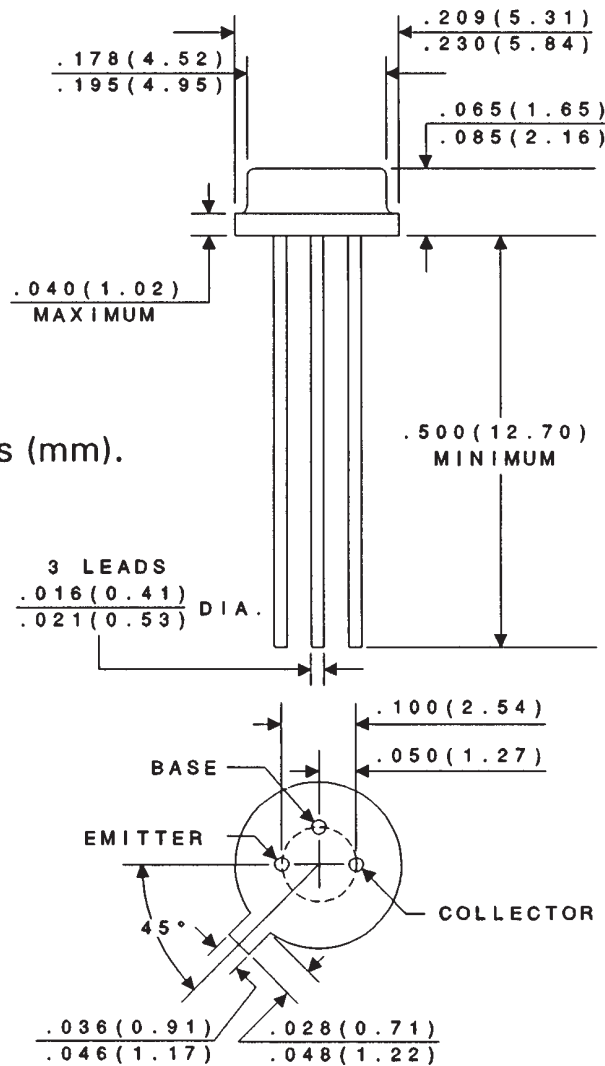
| SYMBOL | TEST CONDITIONS | MIN | MAX | UNITS |
|----------------------|--|-----|-----|-------|
| I _{CES} | V _{CE} = 45V | | 10 | nA |
| I _{CES} | V _{CE} = 45V, T _A = 170°C | | 10 | μA |
| I _{CBO} | V _{CB} = 45V | | 10 | nA |
| I _{EBO} | V _{EB} = 5.0V | | 2.0 | nA |
| BV _{CB0} | I _C = 10μA | 60 | | V |
| BV _{CEO} | I _C = 10mA | 45 | | V |
| BV _{EBO} | I _E = 10μA | 6.0 | | V |
| V _{CE(SAT)} | I _C = 10mA, I _B = 0.5mA | | 0.5 | V |
| V _{BE(SAT)} | I _C = 10mA, I _B = 0.5mA | 0.7 | 0.9 | V |
| h _{FE} | V _{CE} = 5.0V, I _C = 10μA (2N2604) | 40 | 120 | - |
| h _{FE} | V _{CE} = 5.0V, I _C = 10μA (2N2605) | 100 | 300 | - |
| h _{FE} | V _{CE} = 5.0V, I _C = 10μA, T _A = -55°C (2N2604) | 10 | | - |
| h _{FE} | V _{CE} = 5.0V, I _C = 10μA, T _A = -55°C (2N2605) | 20 | | - |
| h _{FE} | V _{CE} = 5.0V, I _C = 500μA (2N2604) | 60 | | - |
| h _{FE} | V _{CE} = 5.0V, I _C = 500μA (2N2605) | 150 | | - |
| h _{FE} | V _{CE} = 5.0V, I _C = 10mA (2N2604) | | 350 | - |
| h _{FE} | V _{CE} = 5.0V, I _C = 10mA (2N2605) | | 600 | - |

(Continued on Reverse Side)

ELECTRICAL CHARACTERISTICS (Continued)

| <u>SYMBOL</u> | <u>TEST CONDITIONS</u> | <u>MIN</u> | <u>MAX</u> | <u>UNITS</u> |
|---------------|---|------------|------------|--------------|
| f_T | $V_{CE}=5.0V, I_C=500\mu A, f=30MHz$ | 30 | | MHz |
| C_{ob} | $V_{CB}=5.0V, I_E=0, f=1.0MHz$ | | 6.0 | pF |
| h_{ie} | $V_{CE}=5.0V, I_C=1.0mA, f=100MHz$ | | 200 | Ω |
| h_{ib} | $V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$ | 25 | 35 | Ω |
| h_{rb} | $V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$ | | 10 | 10^{-4} |
| h_{ob} | $V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$ | | 1.0 | μmho |
| h_{fe} | $V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$ (2N2604) | 60 | 350 | - |
| h_{fe} | $V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$ (2N2605) | 150 | 600 | - |
| NF | $V_{CE}=5.0V, I_C=10\mu A, R_G=10k\Omega, f=10Hz$ to 15.7kHz (2N2604) | | 4.0 | dB |
| NF | $V_{CE}=5.0V, I_C=10\mu A, R_G=10k\Omega, f=10Hz$ to 15.7kHz (2N2605) | | 3.0 | dB |

JEDEC TO-46 - MECHANICAL OUTLINE



All Dimensions in Inches (mm).