

2N2907A

Features

- Meets MIL-S-19500/291
- Collector-Base Voltage 60V
- Collector Current: 600 mAdc
- Fast Switching 345 nS

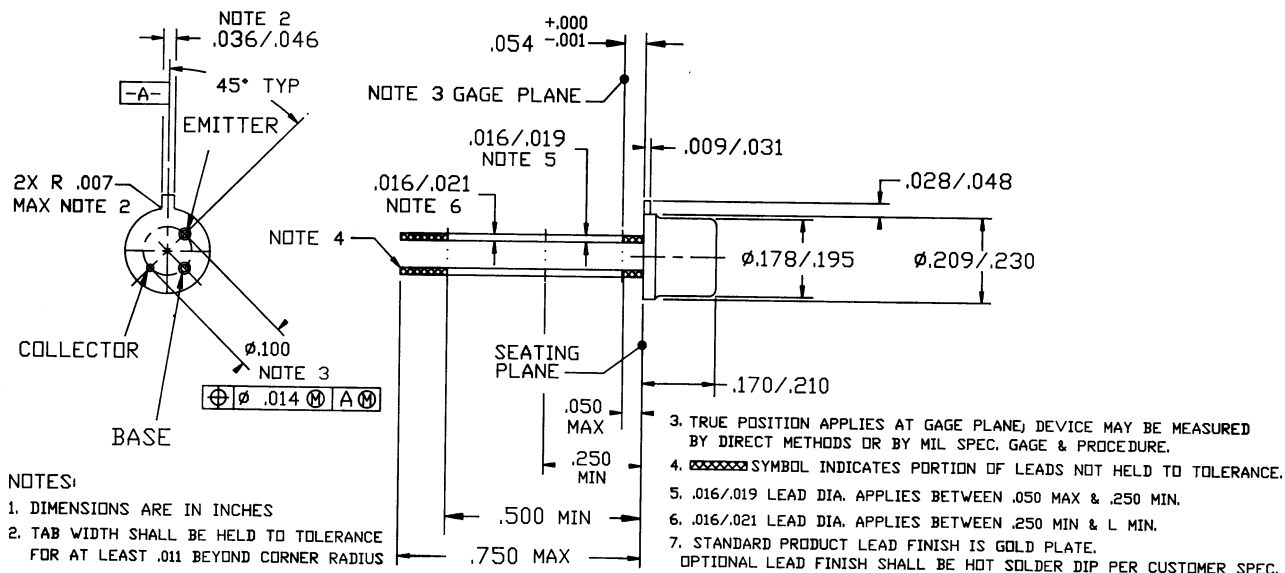
60 Volts
0.6 Amps

PNP
BIPOLAR
TRANSISTOR

Maximum Ratings

| RATING | SYMBOL | MAX. | UNIT |
|---|-----------------|-------------|-------------------------------|
| Collector-Emitter Voltage | V_{CEO} | -60 | Vdc |
| Collector-Base Voltage | V_{CBO} | -60 | Vdc |
| Emitter-Base Voltage | V_{EBO} | -5.0 | Vdc |
| Collector Current--Continuous | I_C | -600 | mAdc |
| Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 400 2.28 | mW mW/ $^\circ\text{C}$ |
| Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C | P_D | 1.8 10.3 | Watts mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 438 | $^\circ\text{C/W}$ |
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 97 | $^\circ\text{C/W}$ |
| Operating Temperature Range | T_J | -65 to +200 | $^\circ\text{C}$ |
| Storage Temperature Range | T_S | -65 to +200 | $^\circ\text{C}$ |

Mechanical Outline



Electrical Parameters (T_A @ 25°C unless otherwise specified)

| CHARACTERISTICS | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|---|----------------------|-------------------------------------|----------------------------------|------------------------------------|------|
| Off Characteristics | | | | | |
| Collector-Emitter Breakdown Voltage(1) (I _C = -10 mAdc, I _B = 0) | BV _{CEO} | -60 | -- | -- | Vdc |
| Collector Base Breakdown Voltage (I _C = -10 μAdc, I _E = 0) | BV _{CBO} | -60 | -- | -- | Vdc |
| Emitter-Base Breakdown Voltage (I _E = -10 μAdc, I _C = 0) | BV _{EBO} | -5.0 | -- | -- | Vdc |
| Collector Cutoff Current (V _{CE} = -50 Vdc) | I _{CES} | -- | -- | -50 | nAdc |
| Collector Cutoff Current (V _{CB} = -50 Vdc, I _E = 0) (V _{CB} = -50 Vdc, I _E = 0, T _A = 150°C) | I _{CBO} | -- | -- | -0.01 -10 | μAdc |
| Emitter Cutoff Current (V _{EB} = -4 Vdc) | I _{EBO} | -- | -- | -50 | nAdc |
| D.C. Current Gain (I _C = -0.1 mAdc, V _{CE} = -10Vdc) (I _C = -1.0 mAdc, V _{CE} = -10Vdc) (I _C = -10 mAdc, V _{CE} = -10Vdc) (I _C = -150 mAdc, V _{CE} = -10Vdc)(1) (I _C = -500 mAdc, V _{CE} = -10Vdc)(1) (I _C = -10mAdc, V _{CE} = -10Vdc) T _A = -55°C | h _{FE} | 75 100 100 100 50 50 | -- -- -- -- -- -- | -- 450 -- 300 -- -- | -- |
| Collector-Emitter Saturation Voltage(1) (I _C = -150 mAdc, I _B = -15 mAdc) (I _C = -500 mAdc, I _B = -50 mAdc) | V _{CE(Sat)} | -- -- | -- -- | -0.4 -1.6 | Vdc |
| Base-Emitter Saturation Voltage (I _C = -150 mAdc, I _B = -15 mAdc) (I _C = -500 mAdc, I _B = -50 mAdc) | V _{BE(Sat)} | -0.6 -- | -- -- | -1.3 -2.6 | Vdc |
| Magnitude of small-signal short circuit forward current transfer ratio (I _C = -50 mAdc, V _{CE} = -20 Vdc, f = 100 MHz) | h _{fe} | 2 | -- | -- | |
| Output Capacitance (V _{CB} = -10 Vdc, I _E = 0, 100kHz ≤ f ≤ 1MHz) | C _{OBO} | -- | -- | 8.0 | pF |
| Input Capacitance (V _{EB} = -2.0 Vdc, I _C = 0, 100kHz ≤ f ≤ 1MHz) | C _{IBO} | -- | -- | 30 | pF |
| Switching Speeds | | | | | |
| Turn-on Time (V _{CC} = -30 Vdc, I _C = -150 mAdc, I _{B1} = -15 mAdc) | t _{ON} | -- | | 45 | ns |
| Turn-off Time (V _{CC} = -6.0 Vdc, I _C = -150 mAdc, I _{B1} = I _{B2} = -15 mAdc) | t _{off} | -- | | 300 | ns |

(1) Pulse Test: Pulse Width ≤ 300 ms, Duty Cycle ≤ 2.0%.