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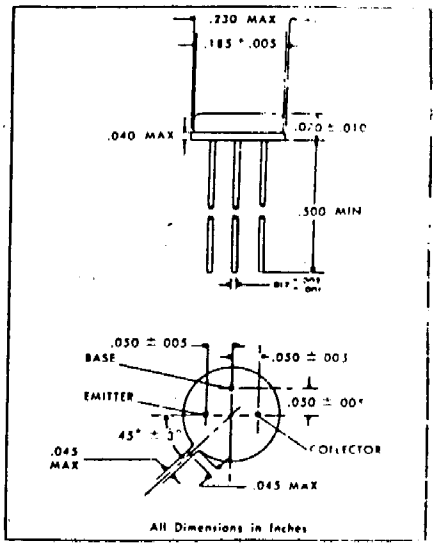
# 2N3218

The 2N 3218 is designed for low level chopper applications and embody the most advanced semiconductor technology, combining epitaxial junction growth with diffusion and oxide passivation techniques. This transistor exhibit the high voltage capabilities of alloy junction devices with the ruggedness, srability, and reliability of the planar process. The bed mounted construction utilizes a unique gold bonding technique which eliminates "purple plague". In addition, leakage current and offset voltage are exceptionally low. The inherent parameter stability of this passivated transistor allows standard matching of offset voltage to 50 microvolts over the range from —25 to +100° C.




TO-46

## ELECTRICAL DATA ABSOLUTE MAXIMUM RATINGS

| | 2N3218 | |
|---|---|---|
| Collector To Emitter Voltage (BVceo) | —20 | Volts |
| Collector To Base Voltage (BVcbo) | —25 | Volts |
| Emitter To Base Voltage (BVebo) | —25 | Volts |
| Collector Current (Ic) | 100 | mA |
| Total Power Dissipation (free air) | 400 | mW |
| Total Power Dissipation (infinite heat sink) | 2 | Watts |
| Storage Temp (max) | 200 | °C |
| Operation Temp (max) | 200 | °C |
| Lead Temp (@ 1/16 ± 1/32 from case) | 240 | 10 sec |
| Derating Factor ($D_f$) | 2.3 | mW/C° |

## ELECTRICAL CHARACTERISTICS $T_A$ = 25°C (UNLESS OTHERWISE STATED)

| Symbol | Parameter | Conditions | 2N3218 Min. | 2N3218 Typ. | 2N3218 Max. | Units |
|---|---|---|---|---|---|---|
| $I_{CBO}$ | Collector Leakage | At Max Rated Voltage | — | 0.1 | 1.0 | nA |
| $I_{EBO}$ | Emitter Leakage | At Max Rated Voltage | — | 0.1 | 1.0 | nA |
| $I_{CBO}$ | Collector Leakage at 100°C | At Max Rated Voltage | — | 0.01 | 0.1 | μA |
| $I_{EBO}$ | Emitter Leakage at 100°C | At Max Rated Voltage | — | 0.01 | 0.1 | μA |
| Vo | Offset Voltage | $I_B$ = 200μA<br>$I_E$ = 0 | — | 1.0 | 2.0 | mV |
| $h_{fe}$ | High Frequency Current Gain | f = 1MC<br>$V_{CE}$ = –6V<br>$I_{CE}$ = 1mA | — | 5 | — | |
| $r_{sat}$ | Inverted Dynamic Saturation Resistance | $I_E$ = 0.1mA<br>$I_B$ = 1mA | — | 25 | 50 | ohms |
| Cob | Collector To Base Capacitance | $V_{CB}$ = –6V<br>$I_C$ = 1mA | — | — | 14 | pfd |
| Ceb | Emitter To Base Capacitance | $V_{EB}$ = –6V<br>$I_E$ = 0 | — | — | 8 | pfd |