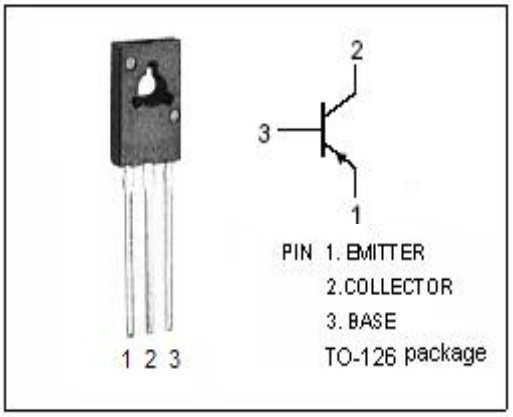
# isc Silicon PNP Power Transistor — BD720

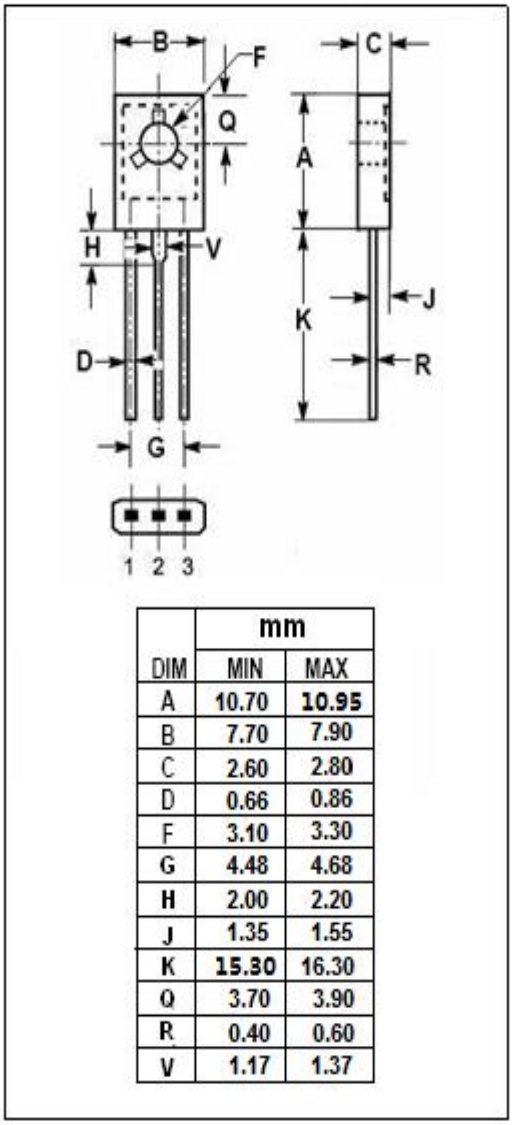
## DESCRIPTION

- DC Current Gain-
  : $h_{FE}$= 40@ $I_C$= -0.5A
- Collector-Emitter Breakdown Voltage -
  : $V_{(BR)CEO}$= -60V(Min)
- Complement to type BD719
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




## APPLICATIONS

- Designed for use in audio output and general purpose amplifier applications.




| DIM | mm MIN | MAX |
|---|---|---|
| A | 10.70 | 10.95 |
| B | 7.70 | 7.90 |
| C | 2.60 | 2.80 |
| D | 0.66 | 0.86 |
| F | 3.10 | 3.30 |
| G | 4.48 | 4.68 |
| H | 2.00 | 2.20 |
| J | 1.35 | 1.55 |
| K | 15.30 | 16.30 |
| Q | 3.70 | 3.90 |
| R | 0.40 | 0.60 |
| V | 1.17 | 1.37 |

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -60 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -60 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -5 | V |
| $I_C$ | Collector Current-Continuous | -4 | A |
| $I_{CM}$ | Collector Current-Peak | -7 | A |
| $I_B$ | Base Current-Continuous | -1 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 36 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 3.5 | ℃/W |
| $R_{th\ j\text{-}a}$ | Thermal Resistance,Junction to Ambient | 100 | ℃/W |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= -30mA ; $I_B$= 0 | -60 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= -2A; $I_B$= -0.2A | | | -1.0 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C$= -2A; $V_{CE}$= -4V | | | -1.4 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= -60V; $I_E$= 0 | | | -50 | μA |
| | | $V_{CB}$= -30V; $I_E$= 0; $T_C$= 150℃ | | | -1 | mA |
| $I_{CEO}$ | Collector Cutoff Current | $V_{CE}$= -30V; $I_B$= 0 | | | -0.1 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= -5V; $I_C$= 0 | | | -0.2 | mA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= -0.5A; $V_{CE}$= -4V | 40 | | | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= -2A; $V_{CE}$= -4V | 20 | | | |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= -0.5A; $V_{CE}$= -4V | 3 | | | MHz |
| Switching Times | | | | | | |
| $t_{on}$ | Turn-On time | $I_C$= -1A; $I_{B1}$= -$I_{B2}$= -0.1A; $V_{CC}$= -20V | | 0.1 | | μs |
| $t_{off}$ | Turn-Off time | | | 0.4 | | μs |

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