# BDV66-A-B-C

# PNP SILICON DARLINGTONS POWER TRANSISTORS

They are silicon epitaxial base transistors mounted in TO-3PN.
Theyare designed for audio output stages and general amplifier and switching applications.
complementary is BDV67-A-B-C
Compliance to RoHS.

## ABSOLUTE MAXIMUM RATINGS

| Symbol | Ratings | | Value | Unit |
|---|---|---|---|---|
| $V_{CEO}$ | Collector-Emitter Voltage | BDV66 | -80 | V |
| | | BDV66A | -100 | |
| | | BDV66B | -120 | |
| | | BDV66C | -140 | |
| $V_{CBO}$ | Collector-Base Voltage | BDV66 | -80 | V |
| | | BDV66A | -100 | |
| | | BDV66B | -120 | |
| | | BDV66C | -140 | |
| $V_{EBO}$ | Emitter-Base Voltage | BDV66 | -5.0 | V |
| | | BDV66A | | |
| | | BDV66B | | |
| | | BDV66C | | |
| $I_C$ | Collector Current | BDV66 | -16 | A |
| | | BDV66A | | |
| | | BDV66B | | |
| | | BDV66C | | |
| $I_{CM}$ | Collector Peak Current | BDV66 | -20 | |
| | | BDV66A | | |
| | | BDV66B | | |
| | | BDV66C | | |
| $I_B$ | Base Current | BDV66 | -0.5 | A |
| | | BDV66A | | |
| | | BDV66B | | |
| | | BDV66C | | |

# BDV66-A-B-C

## ABSOLUTE MAXIMUM RATINGS

| Symbol | Ratings | | | Value | Unit |
|---|---|---|---|---|---|
| $P_T$ | Power Dissipation | $T_{mb}$ = 25° C | BDV66 | 175 | Watts |
| | | | BDV66A | | |
| | | | BDV66B | | |
| | | | BDV66C | | |
| $T_J$ | Junction Temperature | | BDV66 | 150 | °C |
| | | | BDV66A | | |
| | | | BDV66B | | |
| | | | BDV66C | | |
| $T_S$ | Storage Temperature | | BDV66 | -65 to +150 | |
| | | | BDV66A | | |
| | | | BDV66B | | |
| | | | BDV66C | | |

## THERMAL CHARACTERISTICS

| Symbol | Ratings | Value | Unit |
|---|---|---|---|
| $R_{thj-c}$ | Thermal Resistance, Junction to Case | 0.625 | °C / W |

## SWITCHING TIMES

| Symbol | Ratings | Test Condition(s) | Value | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | |
| $t_{on}$ | turn-on time | $I_C$= 10 A , $V_{CC}$= 12 V | - | 1 | - | µs |
| $t_{off}$ | turn-off time | $I_{B1}$ = -$I_{B2}$ = 40 mA | - | 3.5 | - | |

(*) Pulse Width ≈ 300 µs, Duty Cycle ∠ 1.5 %

# BDV66-A-B-C

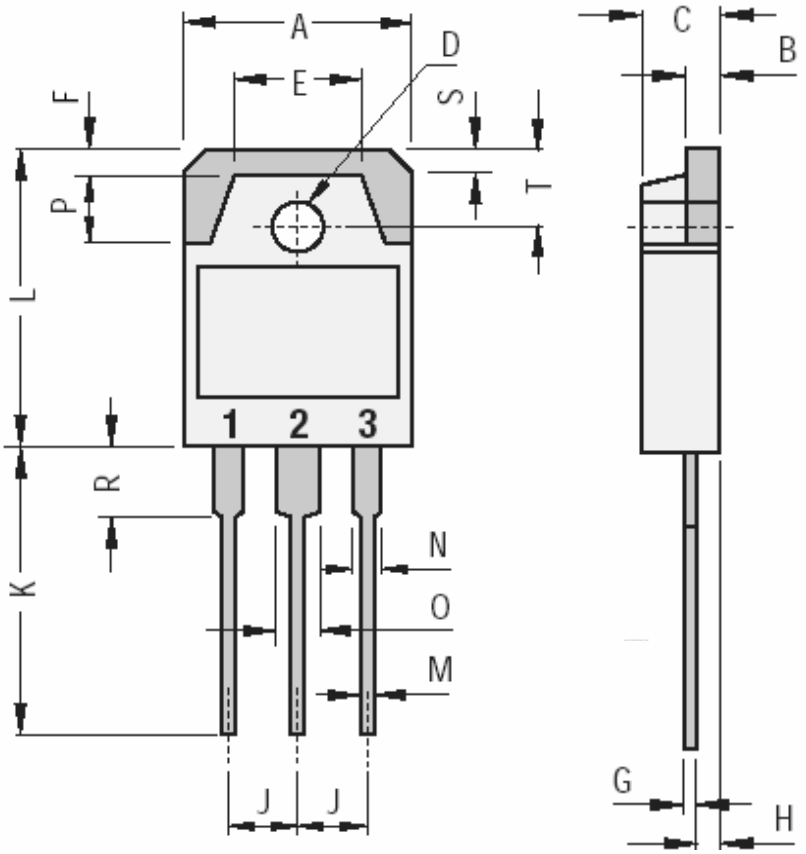
## ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

| Symbol | Ratings | Test Condition(s) | | | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|---|---|
| $I_{CEO}$ | Collector Cutoff Current | $V_{CE}$= -40 V, $I_B$= 0 | | BDV66 | - | - | -1 | mA |
| | | $V_{CE}$= -50 V, $I_B$= 0 | | BDV66A | | | | |
| | | $V_{CE}$= -60 V, $I_B$= 0 | | BDV66B | | | | |
| | | $V_{CE}$= -70 V, $I_B$= 0 | | BDV66C | | | | |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{BE}$= -5 V, $I_C$= 0 | | BDV66 | - | - | -5 | mA |
| | | | | BDV66A | | | | |
| | | | | BDV66B | | | | |
| | | | | BDV66C | | | | |
| $I_{CBO}$ | Collector Cutoff Current | $I_E$= 0 $T_j$=25°C | $V_{CB}$= -80 V | BDV66 | - | - | -1 | mA |
| | | | $V_{CB}$= -100 V | BDV66A | | | | |
| | | | $V_{CB}$= -120 V | BDV66B | | | | |
| | | | $V_{CB}$= -140 V | BDV66C | | | | |
| | | $I_E$= 0 $T_j$=150°C | $V_{CB}$= -40 V | BDV66 | - | - | -5 | |
| | | | $V_{CB}$= -50 V | BDV66A | | | | |
| | | | $V_{CB}$= -60 V | BDV66B | | | | |
| | | | $V_{CB}$= -70 V | BDV66C | | | | |
| $V_{CEO}$ | Collector-Emitter Breakdown Voltage (*) | $I_C$= -100 mA, $I_B$ = 0 | | BDV66 | -60 | - | - | V |
| | | | | BDV66A | -80 | - | | |
| | | | | BDV66B | -100 | - | - | |
| | | | | BDV66C | -120 | - | - | |
| $h_{FE}$ | DC Current Gain (*) | $V_{CE}$= -3 V, $I_C$= -10 A | | BDV66 | 1000 | - | - | - |
| | | | | BDV66A | | | | |
| | | | | BDV66B | | | | |
| | | | | BDV66C | | | | |
| $V_{CE(SAT)}$ | Collector-Emitter saturation Voltage (*) | $I_C$= -10 A, $I_B$= -40 mA | | BDV66 | - | - | -2 | V |
| | | | | BDV66A | | | | |
| | | | | BDV66B | | | | |
| | | | | BDV66C | | | | |
| $V_{BE}$ | Base-Emitter Voltage(*) | $V_{CE}$= -3 V, $I_C$= -10 A | | BDV66 | - | - | -2,5 | V |
| | | | | BDV66A | | | | |
| | | | | BDV66B | | | | |
| | | | | BDV66C | | | | |
| $C_{OB}$ | Output Capacitance | $V_{CB}$= -10 V, $I_E$= 0 $f_{test}$= 1 MHz | | BDV66 | - | 300 | - | pF |
| | | | | BDV66A | | | | |
| | | | | BDV66B | | | | |
| | | | | BDV66C | | | | |

# BDV66-A-B-C

## MECHANICAL DATA CASE TO3PN Non Isolated Plastic Package




| DIMENSIONS (mm) | | |
|---|---|---|
| | Min. | Max. |
| A | 15.20 | 1600 |
| B | 1.90 | 2.10 |
| C | 4.60 | 5.00 |
| D | 3.10 | 3.30 |
| E | | 9.60 |
| F | | 2.00 |
| G | 0.35 | 0.55 |
| H | | 1.40 |
| J | 5.35 | 5.55 |
| K | 20.00 | |
| L | 19.60 | 20.20 |
| M | 0.95 | 1.25 |
| N | | 2.00 |
| O | | 3.00 |
| P | | 4.00 |
| R | | 4.00 |
| S | | 1.80 |
| T | 4.80 | 5.20 |

| | |
|---|---|
| Pin 1 : | Base |
| Pin 2 : | Collector |
| Pin 3 : | Emitter |
| Package | Collector |

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