# DC COMPONENTS CO., LTD.

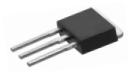
DISCRETE SEMICONDUCTORS

MID122

## *TECHNICAL SPECIFICATIONS OF NPN DARLINGTON TRANSISTOR*

### Description

Designed for use in general purpose amplifier and low speed switching applications.



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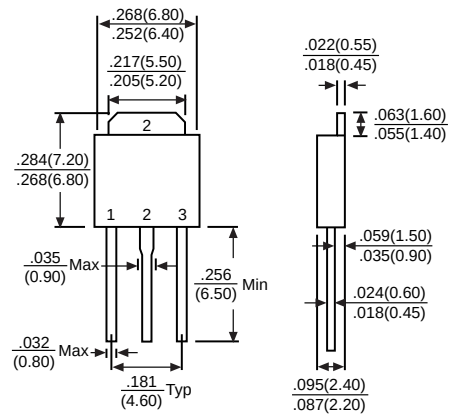


Dimensions in inches and (millimeters)

### Pinning

1 = Base
2 = Collector
3 = Emitter

### Absolute Maximum Ratings($T_A$=25°C)

| Characteristic | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 100 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | 100 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 5 | V |
| Collector Current | $I_C$ | 8 | A |
| Total Power Dissipation($T_C$=25°C) | $P_D$ | 20 | W |
| Junction Temperature | $T_J$ | +150 | °C |
| Storage Temperature | $T_{STG}$ | -55 to +150 | °C |

### Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | $BV_{CBO}$ | 100 | - | - | V | $I_C$=1mA |
| Collector-Emitter Breakdown Voltage | $BV_{CEO}$ | 100 | - | - | V | $I_C$=30mA |
| Emitter-Base Breakdown Voltage | $BV_{EBO}$ | 5 | - | - | V | $I_E$=1mA |
| Collector Cutoff Current | $I_{CBO}$ | - | - | 10 | μA | $V_{CB}$=100V |
| | $I_{CEO}$ | - | - | 10 | μA | $V_{CE}$=50V |
| Emitter Cutoff Current | $I_{EBO}$ | - | - | 2 | mA | $V_{EB}$=5V |
| Collector-Emitter Saturation Voltage(1) | $V_{CE(sat)1}$ | - | - | 2 | V | $I_C$=4A, $I_B$=16mA |
| | $V_{CE(sat)2}$ | - | - | 4 | V | $I_C$=8A, $I_B$=80mA |
| Base-Emitter Saturation Voltage(1) | $V_{BE(sat)}$ | - | - | 4.5 | V | $I_C$=8A, $I_B$=80mA |
| Base-Emitter On Voltage(1) | $V_{BE(on)}$ | - | - | 2.8 | V | $I_C$=4A, $V_{CE}$=4V |
| DC Current Gain(1) | $h_{FE1}$ | 1K | - | 12K | - | $I_C$=4A, $V_{CE}$=4V |
| | $h_{FE2}$ | 100 | - | - | - | $I_C$=8A, $V_{CE}$=4V |
| Output Capacitance | $C_{ob}$ | - | 130 | - | pF | $V_{CB}$=10V, f=1MHz |

(1)Pulse Test: Pulse Width ≦ 380μs, Duty Cycle ≦ 2%