



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

MID122

TECHNICAL SPECIFICATIONS OF NPN DARLINGTON TRANSISTOR

Description

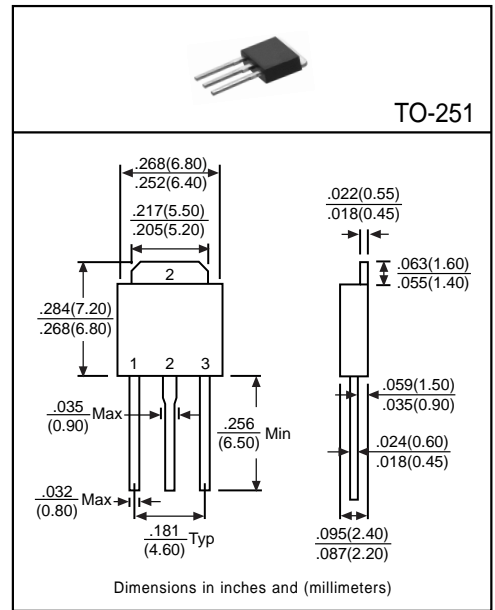
Designed for use in general purpose amplifier and low speed switching applications.

Pinning

- 1 = Base
- 2 = Collector
- 3 = Emitter

Absolute Maximum Ratings(T<sub>A</sub>=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	100	V
Collector-Emitter Voltage	V <sub>CEO</sub>	100	V
Emitter-Base Voltage	V <sub>EB0</sub>	5	V
Collector Current	I <sub>C</sub>	8	A
Total Power Dissipation(T <sub>C</sub> =25°C)	P <sub>D</sub>	20	W
Junction Temperature	T <sub>J</sub>	+150	°C
Storage Temperature	T <sub>STG</sub>	-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 <sub>CB0</sub>	100	-	-	V	I <sub>C</sub> =1mA
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	100	-	-	V	I <sub>C</sub> =30mA
Emitter-Base Breakdown Voltage	BV <sub>EB0</sub>	5	-	-	V	I <sub>E</sub> =1mA
Collector Cutoff Current	I <sub>CB0</sub>	-	-	10	μA	V <sub>CB</sub> =100V
	I <sub>CEO</sub>	-	-	10	μA	V <sub>CE</sub> =50V
Emitter Cutoff Current	I <sub>EB0</sub>	-	-	2	mA	V <sub>EB</sub> =5V
Collector-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>CE(sat)1</sub>	-	-	2	V	I <sub>C</sub> =4A, I <sub>B</sub> =16mA
	V <sub>CE(sat)2</sub>	-	-	4	V	I <sub>C</sub> =8A, I <sub>B</sub> =80mA
Base-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>BE(sat)</sub>	-	-	4.5	V	I <sub>C</sub> =8A, I <sub>B</sub> =80mA
Base-Emitter On Voltage <sup>(1)</sup>	V <sub>BE(on)</sub>	-	-	2.8	V	I <sub>C</sub> =4A, V <sub>CE</sub> =4V
DC Current Gain <sup>(1)</sup>	h <sub>FE1</sub>	1K	-	12K	-	I <sub>C</sub> =4A, V <sub>CE</sub> =4V
	h <sub>FE2</sub>	100	-	-	-	I <sub>C</sub> =8A, V <sub>CE</sub> =4V
Output Capacitance	C <sub>ob</sub>	-	130	-	pF	V <sub>CB</sub> =10V, f=1MHz

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