



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

1882

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

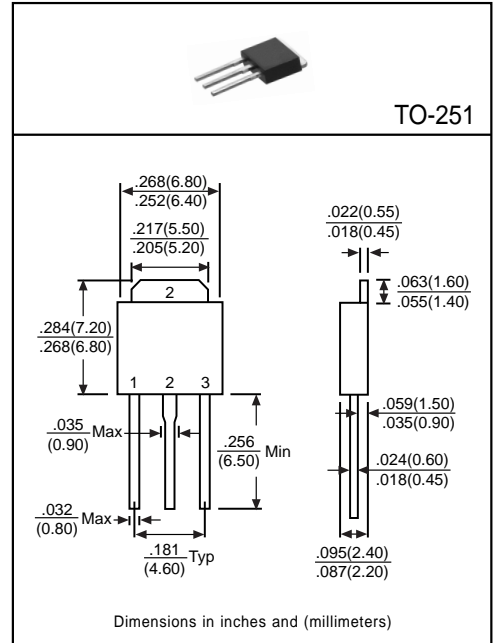
Designed for use in output stage of 10W audio amplifier, voltage regulator, DC-DC converter, and relay driver.

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>	40	V
Collector-Emitter Voltage	V <sub>CE0</sub>	30	V
Emitter-Base Voltage	V <sub>EB0</sub>	5	V
Collector Current (DC)	I <sub>C</sub>	3	A
Collector Current (pulse)	I <sub>C</sub>	7	A
Base Current (DC)	I <sub>B</sub>	600	mA
Total Power Dissipation(T <sub>C</sub> =25°C)	P <sub>D</sub>	10	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>	40	-	-	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	BV <sub>CE0</sub>	30	-	-	V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	BV <sub>EB0</sub>	5	-	-	V	I <sub>E</sub> =10μA, I <sub>C</sub> =0
Collector Cutoff Current	I <sub>CB0</sub>	-	-	1	μA	V <sub>CB</sub> =30V, I <sub>E</sub> =0
Emitter Cutoff Current	I <sub>EB0</sub>	-	-	1	μA	V <sub>EB</sub> =3V, I <sub>C</sub> =0
Collector-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>CE(sat)</sub>	-	0.3	0.5	V	I <sub>C</sub> =2A, I <sub>B</sub> =0.2A
Base-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>BE(sat)</sub>	-	1	2	V	I <sub>C</sub> =2A, I <sub>B</sub> =0.2A
DC Current Gain <sup>(1)</sup>	hFE1	30	-	-	-	I <sub>C</sub> =20mA, V <sub>CE</sub> =2V
	hFE2	100	-	500	-	I <sub>C</sub> =1A, V <sub>CE</sub> =2V
Transition Frequency	f <sub>T</sub>	-	90	-	MHz	I <sub>C</sub> =0.1A, V <sub>CE</sub> =5V, f=100MHz
Output Capacitance	C <sub>ob</sub>	-	45	-	pF	V <sub>CB</sub> =10V, f=1MHz

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

Classification of hFE2

Rank	Q	P	E
Range	100~200	160~320	250~500