



# DC COMPONENTS CO., LTD.

## DISCRETE SEMICONDUCTORS

2SC1815

### TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

#### Description

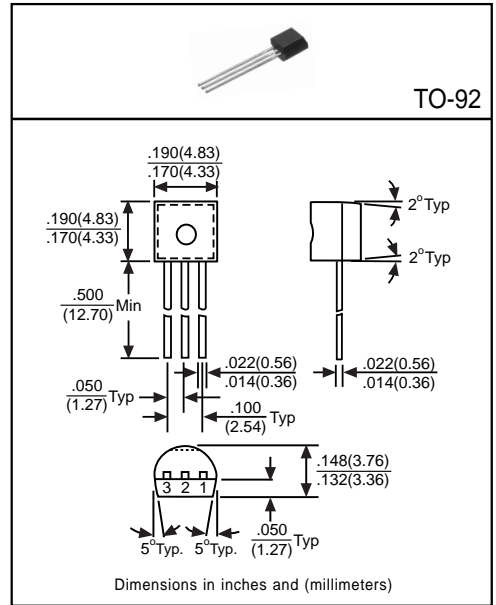
Designed for use in driver stage of AF amplifier general purpose amplification.

#### Pinning

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

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	150	mA
Base Current	I <sub>B</sub>	50	mA
Total Power Dissipation	P <sub>D</sub>	400	mW
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>	60	-	-	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	50	-	-	V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	5	-	-	V	I <sub>E</sub> =10μA, I <sub>C</sub> =0
Collector Cutoff Current	I <sub>CBO</sub>	-	-	100	nA	V <sub>CB</sub> =60V, I <sub>E</sub> =0
Emitter Cutoff Current	I <sub>EBO</sub>	-	-	100	nA	V <sub>EB</sub> =5V, I <sub>C</sub> =0
Collector-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>CE(sat)</sub>	-	-	0.25	V	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA
Base-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>BE(sat)</sub>	-	-	1	V	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA
DC Current Gain <sup>(1)</sup>	hFE1	70	-	700	-	I <sub>C</sub> =2mA, V <sub>CE</sub> =6V
	hFE2	25	-	-	-	I <sub>C</sub> =150mA, V <sub>CE</sub> =6V
Transition Frequency	f <sub>T</sub>	80	-	-	MHz	I <sub>C</sub> =1mA, V <sub>CE</sub> =10V
Output Capacitance	C <sub>ob</sub>	-	-	3.5	pF	V <sub>CB</sub> =10V, f=1MHz, I <sub>E</sub> =0

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

#### Classification of hFE1

Rank	O	Y	GR	BL
Range	70~140	120~240	200~400	350~700