



DC COMPONENTS CO., LTD.  
DISCRETE SEMICONDUCTORS

DMBTA05

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

**Description**

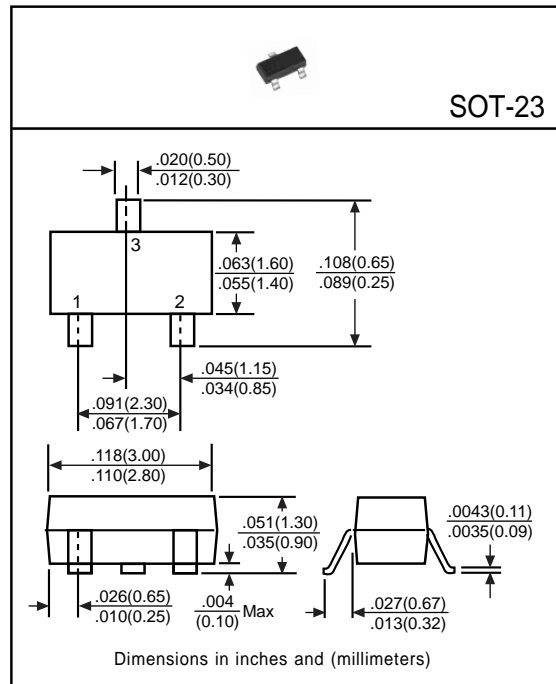
Designed for general purpose amplifier applications.

**Pinning**

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

**Absolute Maximum Ratings** (TA=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	60	V
Collector-Emitter Voltage	V <sub>CE0</sub>	60	V
Emitter-Base Voltage	V <sub>EB0</sub>	4	V
Collector Current	I <sub>C</sub>	500	mA
Total Power Dissipation	P <sub>D</sub>	225	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
Collector-Emitter Breakdown Voltage	BV <sub>CE0</sub>	60	-	-	V	I <sub>C</sub> =1mA
Emitter-Base Breakdown Voltage	BV <sub>EB0</sub>	4	-	-	V	I <sub>E</sub> =100μA
Collector Cutoff Current	I <sub>CB0</sub>	-	-	100	nA	V <sub>CB</sub> =60V
	I <sub>CE0</sub>	-	-	100	nA	V <sub>CE</sub> =60V
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 On Voltage	V <sub>BE(on)</sub>	-	-	1.2	V	I <sub>C</sub> =100mA, V <sub>CE</sub> =1V
DC Current Gain <sup>(1)</sup>	h <sub>FE1</sub>	80	-	250	-	I <sub>C</sub> =10mA, V <sub>CE</sub> =1V
	h <sub>FE2</sub>	50	-	-	-	I <sub>C</sub> =100mA, V <sub>CE</sub> =1V
Transition Frequency	f <sub>r</sub>	100	-	-	MHz	I <sub>C</sub> =10mA, V <sub>CE</sub> =2V, f=100MHz

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