



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DMBT9013

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

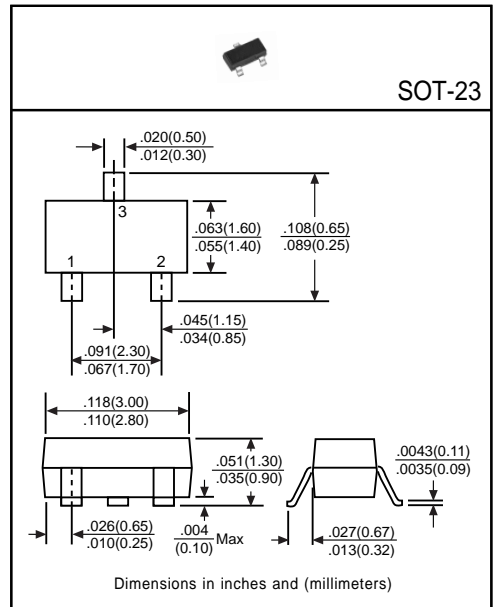
Designed for low frequency amplifier applications.

Pinning

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

Absolute Maximum Ratings($T_A=25^{\circ}C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	40	V
Collector-Emitter Voltage	V_{CE0}	20	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	500	mA
Total Power Dissipation	P_D	225	mW
Junction Temperature	T_J	+150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$



Electrical Characteristics

(Ratings at 25 $^{\circ}C$ ambient temperature unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{CB0}	40	-	-	V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	BV_{CE0}	20	-	-	V	$I_C=1mA, I_B=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	5	-	-	V	$I_E=100\mu A, I_C=0$
Collector Cutoff Current	I_{CBO}	-	-	0.1	μA	$V_{CB}=25V, I_E=0$
Emitter Cutoff Current	I_{EBO}	-	-	0.1	μA	$V_{EB}=3V, I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	0.6	V	$I_C=500mA, I_B=50mA$
Base-Emitter Saturation Voltage ⁽¹⁾	$V_{BE(sat)}$	-	-	1.2	V	$I_C=500mA, I_B=50mA$
DC Current Gain ⁽¹⁾	h_{FE1}	120	-	350	-	$I_C=50mA, V_{CE}=1V$
	h_{FE2}	40	-	-	-	$I_C=500mA, V_{CE}=1V$

(1)Pulse Test: Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$

Classification of h_{FE1}

Rank	L	H
Range	120~200	200~350