



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DMBT9014

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

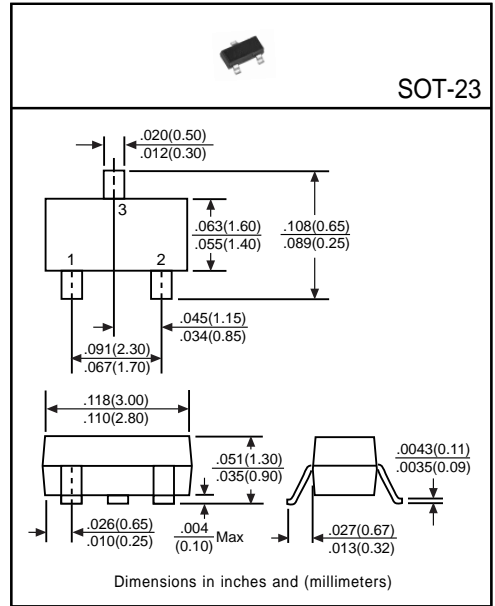
Designed for use in pre-amplifier of low level and low noise.

Pinning

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

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	50	V
Collector-Emitter Voltage	V_{CE0}	45	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	100	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}	50	-	-	V	$I_C=100\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	BV_{CE0}	45	-	-	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	$V_{CB}=50V, I_E=0$
Emitter Cutoff Current	I_{EBO}	-	-	0.1	μA	$V_{EB}=3V, I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	0.3	V	$I_C=100mA, I_B=5mA$
Base-Emitter Saturation Voltage ⁽¹⁾	$V_{BE(sat)}$	-	-	1	V	$I_C=100mA, I_B=5mA$
DC Current Gain ⁽¹⁾	h_{FE}	200	-	1000	-	$I_C=1mA, V_{CE}=5V$
Transition Frequency	f_T	150	-	-	MHz	$I_C=10mA, V_{CE}=5V$

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

Classification of h_{FE}

Rank	L	H
Range	200~450	450~1000