



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DMBTA44

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

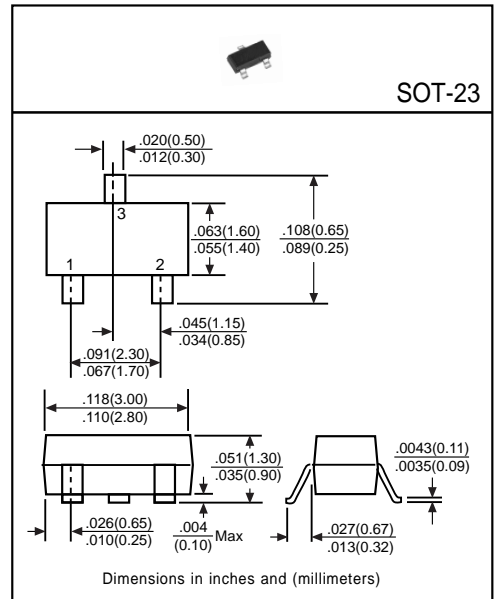
Designed for applications requiring high breakdown voltage.

Pinning

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

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	450	V
Collector-Emitter Voltage	V _{CE0}	400	V
Emitter-Base Voltage	V _{EB0}	6	V
Collector Current	I _C	300	mA
Total Power Dissipation	P _D	350	mW
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 to +150	°C



Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

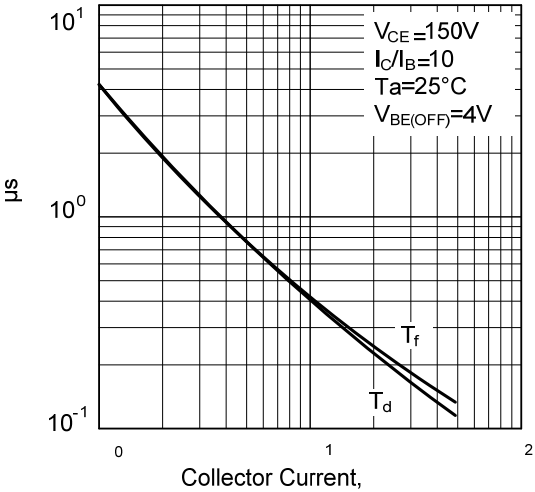
Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV _{CB0}	450	-	-	V	I _C =100μA
Collector-Emitter Breakdown Voltage	BV _{CE0}	400	-	-	V	I _C =1mA
Emitter-Base Breakdown Voltage	BV _{EB0}	6	-	-	V	I _E =10μA
Collector Cutoff Current	I _{CB0}	-	-	100	nA	V _{CB} =400V
	I _{CE0}	-	-	500	nA	V _{CE} =400V
Emitter Cutoff Current	I _{EB0}	-	-	100	nA	V _{EB} =4V
Collector-Emitter Saturation Voltage ⁽¹⁾	V _{CE(sat)1}	-	-	0.4	V	I _C =1mA, I _B =0.1mA
	V _{CE(sat)2}	-	-	0.5	V	I _C =10mA, I _B =1mA
	V _{CE(sat)3}	-	-	0.75	V	I _C =50mA, I _B =5mA
Base-Emitter Saturation Voltage ⁽¹⁾	V _{BE(sat)}	-	-	0.75	V	I _C =10mA, I _B =1mA
DC Current Gain ⁽¹⁾	h _{FE1}	40	-	-	-	I _C =1mA, V _{CE} =10V
	h _{FE2}	50	-	300	-	I _C =10mA, V _{CE} =10V
	h _{FE3}	45	-	-	-	I _C =50mA, V _{CE} =10V
	h _{FE4}	40	-	-	-	I _C =100mA, V _{CE} =10V
Output Capacitance	C _{ob}	-	4	6	pF	V _{CB} =20V, f=1MHz

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

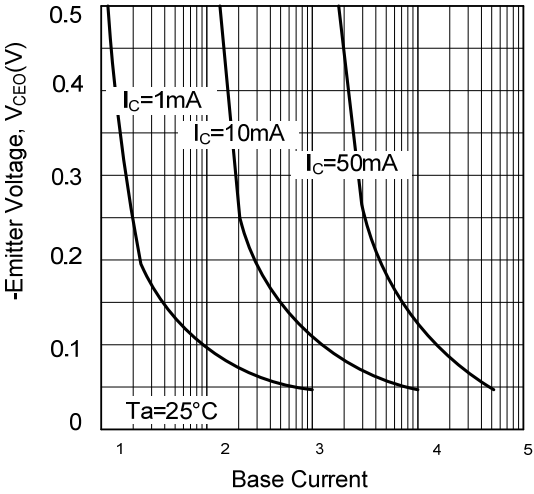
DMBTA44

Electrical Characteristic Curves

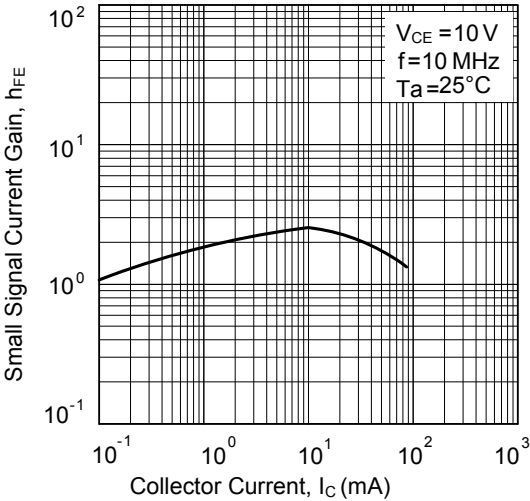
Turn-on Switching Times



Collector Saturation Region



High Frequency Current Gain



Safe Operating Area

