



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

DMBT5551

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

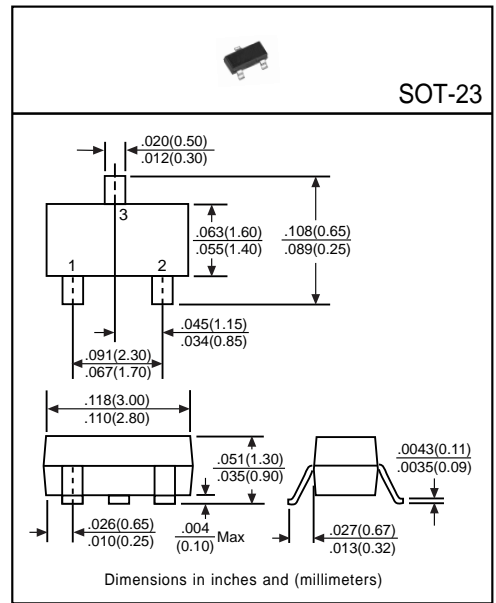
Designed for general purpose applications requiring high breakdown voltage.

Pinning

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

Absolute Maximum Ratings (TA=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	180	V
Collector-Emitter Voltage	V _{CE0}	160	V
Emitter-Base Voltage	V _{EB0}	6	V
Collector Current	I _C	600	mA
Total Power Dissipation	P _D	225	mW
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55 to +150	°C



Electrical Characteristics

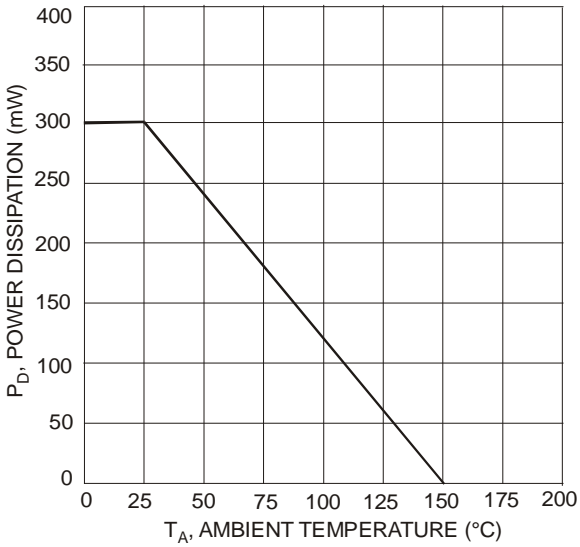
(Ratings at 25°C ambient temperature unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV _{CB0}	180	-	-	V	I _C =100μA
Collector-Emitter Breakdown Voltage	BV _{CE0}	160	-	-	V	I _C =1mA
Emitter-Base Breakdown Voltage	BV _{EB0}	6	-	-	V	I _E =10μA
Collector Cutoff Current	I _{CBO}	-	-	50	nA	V _{CB} =120V
Emitter Cutoff Current	I _{EBO}	-	-	50	nA	V _{EB} =4V
Collector-Emitter Saturation Voltage ⁽¹⁾	V _{CE(sat)1}	-	-	0.15	V	I _C =10mA, I _B =1mA
	V _{CE(sat)2}	-	-	0.2	V	I _C =50mA, I _B =5mA
Base-Emitter Saturation Voltage ⁽¹⁾	V _{BE(sat)1}	-	-	1	V	I _C =10mA, I _B =1mA
	V _{BE(sat)2}	-	-	1	V	I _C =50mA, I _B =5mA
DC Current Gain ⁽¹⁾	h _{FE1}	80	-	-	-	I _C =1mA, V _{CE} =5V
	h _{FE2}	80	-	250	-	I _C =10mA, V _{CE} =5V
	h _{FE3}	30	-	-	-	I _C =50mA, V _{CE} =5V
Transition Frequency	f _T	100	-	300	MHz	I _C =10mA, V _{CE} =10V, f=100MHz
Output Capacitance	C _{ob}	-	-	6	pF	V _{CB} =10V, f=1MHz

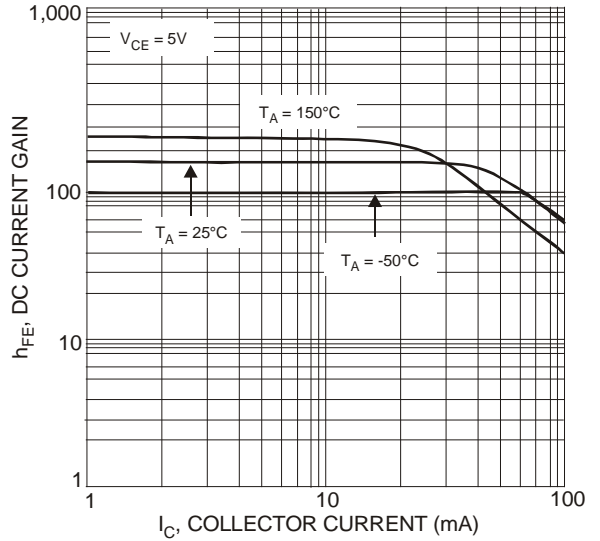
(1) Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

Electrical Characteristic Curves

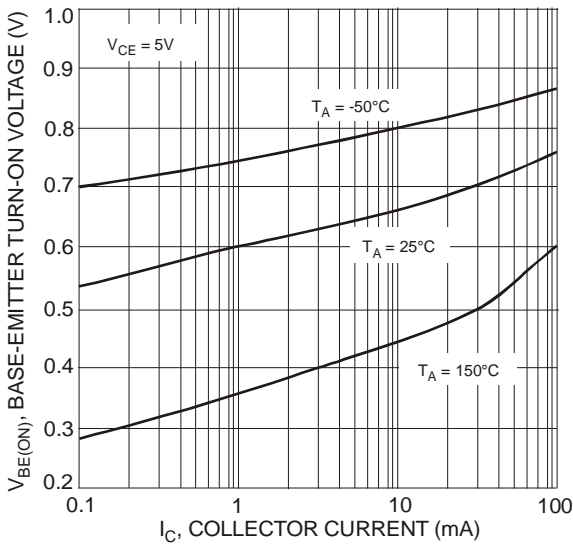
Power Dissipation vs. Ambient Temperature



Typical DC Current Gain vs. Collector Current



Typical Base-Emitter Turn-On Voltage vs. Collector Current



Typical Collector-Emitter Saturation Voltage vs. Collector Current

