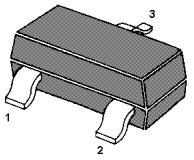
MMBTSD123

NPN Silicon Epitaxial Planar Transistor

Low saturation medium current application
Suitable for low voltage large current drivers



1. Base 2. Emitter 3. Collector
TO-236 Plastic Package

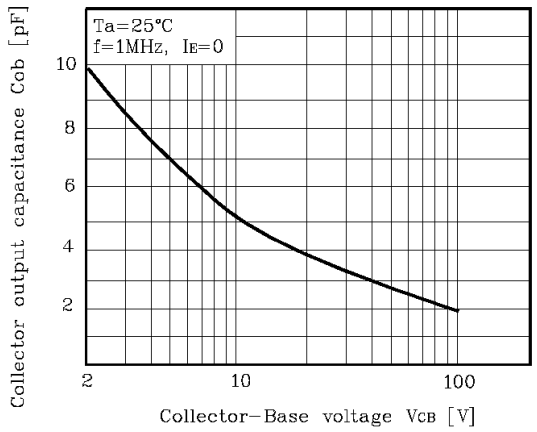
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	20	V
Collector Emitter Voltage	V_{CEO}	15	V
Emitter Base Voltage	V_{EBO}	6.5	V
Collector Current	I_C	1	A
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

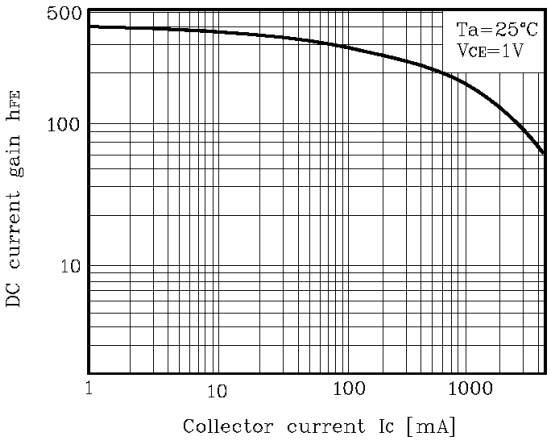
Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 1 V, I_C = 100 mA	h_{FE}	150	-	-	-
Collector Base Cutoff Current at V_{CB} = 20 V	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at V_{EB} = 6 V	I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage at I_C = 50 µA	$V_{(BR)CBO}$	20	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA	$V_{(BR)CEO}$	15	-	-	V
Emitter Base Breakdown Voltage at I_E = 50 µA	$V_{(BR)EBO}$	6.5	-	-	V
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA	$V_{CE(sat)}$	-	-	0.3	V
Transition Frequency at V_{CE} = 5 V, I_C = 50 mA	f_T	-	260	-	MHz
Collector Output Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{ob}	-	5	-	pF

C_{Ob}-V_{CB}



h_{FE}-I_C



$V_{CE(sat)}$-I_C