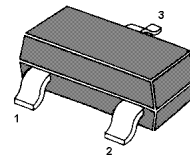


MMBTSD123

NPN Silicon Epitaxial Planar Transistor

Low saturation medium current application

Suitable for low voltage large current drivers



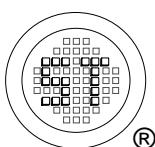
1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

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

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	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

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



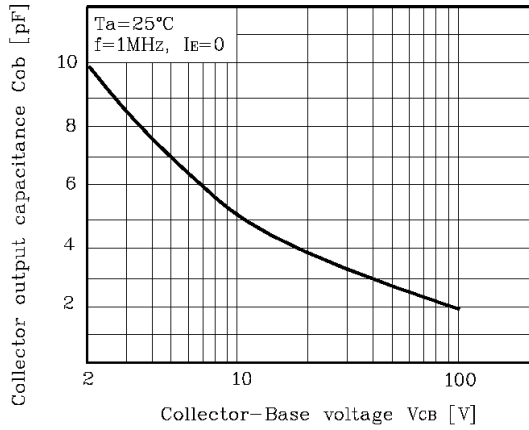
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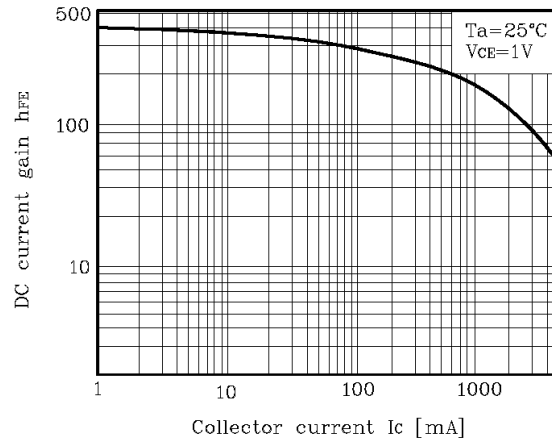
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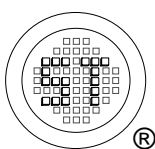
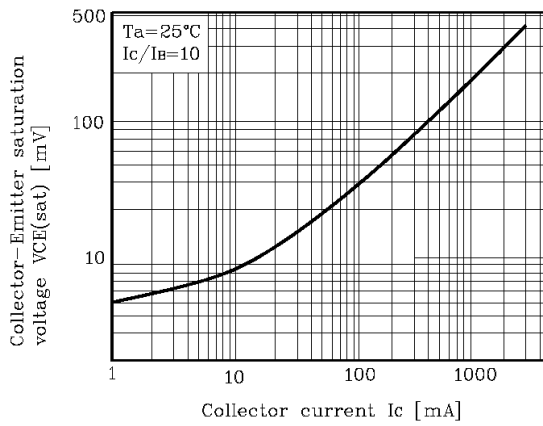
C_{Ob}, V_{CB}



h_{FE}, I_C



$V_{CE(sat)}, I_C$



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