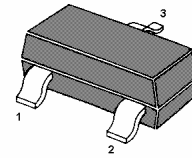


# MMBTSD123

## NPN Silicon Epitaxial Planar Transistor

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



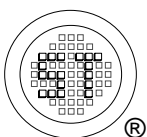
1.BASE 2.EMITTER 3.COLLECTOR  
SOT-23 Plastic Package

### 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	$T_s$	- 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 Cutoff Current at $V_{CB} = 20\text{ V}$	$I_{CBO}$	-	-	100	nA
Emitter 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
Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{OB}$	-	5	-	pF



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company  
listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



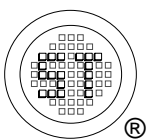
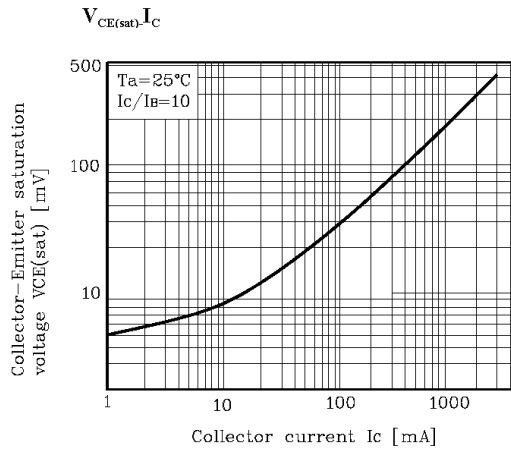
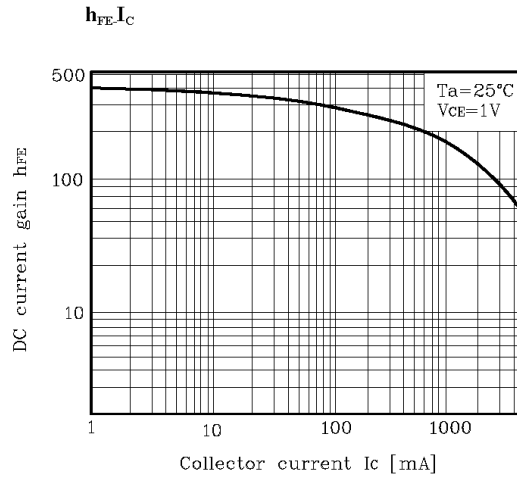
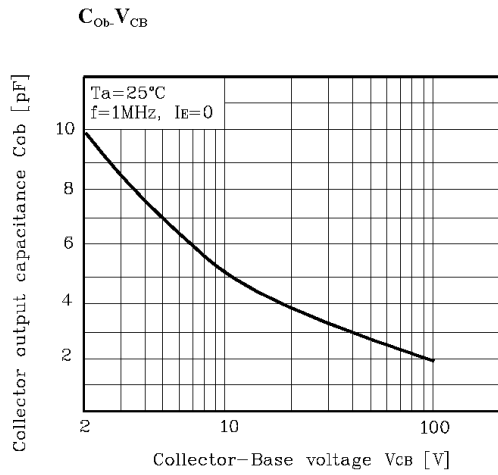
ISO 14001:2004  
Certificate No. 7116



ISO 9001:2000  
Certificate No. 0506098

Dated : 13/09/2007

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