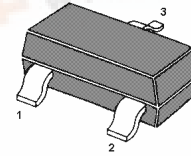


# MMBTA10 / MMBTA11

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## NPN Silicon Epitaxial Planar Transistor

VHF / UHF transistor



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

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

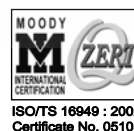
Parameter	Symbol	Rating	Unit
Collector Base Voltage	$V_{\text{CBO}}$	30	V
Collector Emitter Voltage	$V_{\text{CEO}}$	25	V
Emitter Base Voltage	$V_{\text{EBO}}$	3	V
Collector Current	$I_{\text{C}}$	100	mA
Total Dissipation	$P_{\text{tot}}$	200	mW
Junction Temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{\text{s}}$	- 55 to + 150	$^\circ\text{C}$

### Characteristics at $T_{\text{amb}} = 25^\circ\text{C}$

Parameter	Symbol	Min	Max	Unit
DC Current Gain at $V_{\text{CE}} = 10\text{ V}$ , $I_{\text{C}} = 4\text{ mA}$	$h_{\text{FE}}$	60	-	-
Collector Base Breakdown Voltage at $I_{\text{C}} = 100\text{ }\mu\text{A}$	$V_{(\text{BR})\text{CBO}}$	30	-	V
Collector Emitter Breakdown Voltage at $I_{\text{C}} = 1\text{ mA}$	$V_{(\text{BR})\text{CEO}}$	25	-	V
Emitter Base Breakdown Voltage at $I_{\text{E}} = 10\text{ }\mu\text{A}$	$V_{(\text{BR})\text{EBO}}$	3	-	V
Collector Cutoff Current at $V_{\text{CB}} = 25\text{ V}$	$I_{\text{CBO}}$	-	100	nA
Emitter Cutoff Current at $V_{\text{EB}} = 2\text{ V}$	$I_{\text{EBO}}$	-	100	nA
Collector Emitter Saturation Voltage at $I_{\text{C}} = 4\text{ mA}$ , $I_{\text{B}} = 0.4\text{ mA}$	$V_{\text{CE}(\text{sat})}$	-	0.5	V
Base-Emitter On Voltage at $V_{\text{CE}} = 10\text{ V}$ , $I_{\text{C}} = 4\text{ mA}$	$V_{\text{BE}(\text{on})}$	-	0.95	V
Current Gain Bandwidth Product at $V_{\text{CE}} = 10\text{ V}$ , $I_{\text{C}} = 4\text{ mA}$ , $f = 100\text{ MHz}$	$f_{\text{T}}$	650	-	MHz
Collector Base Capacitance at $V_{\text{CB}} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{\text{cb}}$	-	0.7	pF
Collector Base Feedback Capacitance $V_{\text{CB}} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{\text{rb}}$	0.35 0.6	0.65 0.9	pF pF

**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company  
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ISO/TS 16949 : 2002  
Certificate No. 05103

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Certificate No. 71116

ISO 9001:2000  
Certificate No. 0506098

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