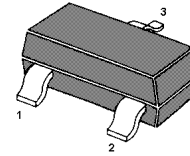


# MMBTA10 / MMBTA11

## NPN Silicon Epitaxial Planar Transistor

VHF / UHF transistor



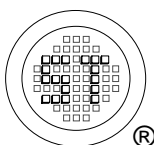
1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

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

Parameter	Symbol	Rating	Unit
Collector Base Voltage	$V_{CBO}$	30	V
Collector Emitter Voltage	$V_{CEO}$	25	V
Emitter Base Voltage	$V_{EBO}$	3	V
Collector Current	$I_C$	100	mA
Total 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 $T_{amb} = 25^\circ\text{C}$

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



**SEMTECH ELECTRONICS LTD.**  
Subsidiary of Sino-Tech International (BVI) Limited



Dated : 17/06/2006