

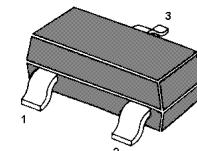
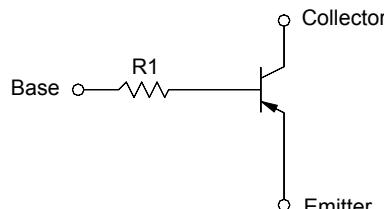
# MMBTRA110SS...MMBTRA114SS

## PNP Silicon Epitaxial Planar Transistor

for switching and interface circuit and drive circuit applications

### Features

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process



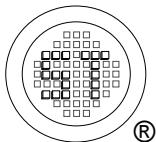
1. Base 2. Emitter 3. Collector  
TO-236 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	50	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	100	mA
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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 5 \text{ V}$ , $-I_C = 1 \text{ mA}$	$h_{FE}$	120	-	-	-
Collector Cutoff Current at $-V_{CB} = 50 \text{ V}$	$-I_{CBO}$	-	-	100	nA
Emitter Cutoff Current at $-V_{EB} = 5 \text{ V}$	$-I_{EBO}$	-	-	100	nA
Collector Emitter Saturation Voltage at $-I_C = 10 \text{ mA}$ , $-I_B = 0.5 \text{ mA}$	$-V_{CE(sat)}$	-	-	0.3	V
Transition Frequency at $-V_{CE} = 10 \text{ V}$ , $-I_C = 5 \text{ mA}$	$f_T$	-	250	-	MHz
Input Resistor	$R_1$	-	4.7 10 100 22 47	-	K $\Omega$
MMBTRA110SS MMBTRA111SS MMBTRA112SS MMBTRA113SS MMBTRA114SS					



**SEMTECH ELECTRONICS LTD.**



ISO9TS 16949 :2009 ISO14001 : 2004 ISO 9001 : 2008 BS-OHSAS 18001 : 2007 IECQ QC 080000  
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