

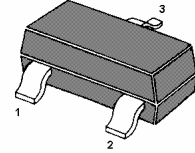
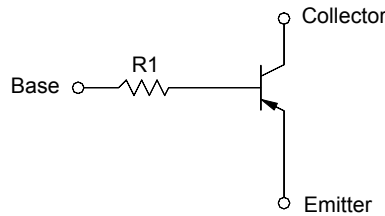
# MMBTRA110SS...MMBTRA114SS

## 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



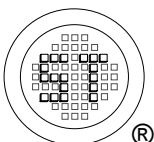
1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

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

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	$T_s$	- 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 $-V_{CE} = 5\text{ V}$ , $-I_C = 1\text{ mA}$	$h_{FE}$	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	MMBTRA110SS	-	4.7	-	K $\Omega$
	MMBTRA111SS	-	10	-	
	MMBTRA112SS	-	100	-	
	MMBTRA113SS	-	22	-	
	MMBTRA114SS	-	47	-	



**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  
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ISO 14001:2004  
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ISO 9001:2000  
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