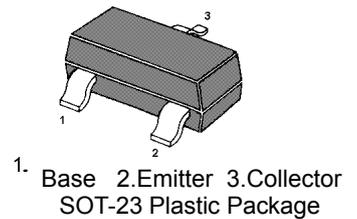
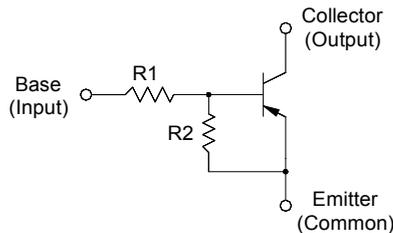


PNP Silicon Epitaxial Planar Transistor

for switching, interface circuit and drive circuit applications

Features

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



Resistor Values/Marking Code

Type	R1 (K Ω)	R2 (K Ω)	Marking
MMBTRA107SS	10	47	7BT
MMBTRA108SS	22	47	8BT
MMBTRA109SS	47	22	9BT

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

Parameter		Symbol	Value	Unit
Output Voltage		$-V_o$	50	V
Input Voltage	MMBTRA107SS	V_i	- 30, 6	V
	MMBTRA108SS		- 40, 7	
	MMBTRA109SS		- 40, 15	
Output Current		$-I_o$	100	mA
Total 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 $T_a = 25\text{ °C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_o = 5\text{ V}$, $-I_o = 10\text{ mA}$	G_I	80	-	-	-
MMBTRA107SS		80	-	-	-
MMBTRA108SS		80	-	-	-
MMBTRA109SS		70	-	-	-
Output Cutoff Current at $-V_o = 50\text{ V}$	$-I_{O(OFF)}$	-	-	500	nA
Input Current at $-V_i = 5\text{ V}$	$-I_i$	-	-	0.88	mA
MMBTRA107SS		-	-	0.36	
MMBTRA108SS		-	-	0.16	
MMBTRA109SS		-	-	-	
Output Voltage at $-I_o = 10\text{ mA}$, $-I_i = 0.5\text{ mA}$	$-V_{O(ON)}$	-	-	0.3	V
Input Voltage (ON) at $-V_o = 0.2\text{ V}$, $-I_o = 5\text{ mA}$	$-V_{I(ON)}$	-	-	1.8	V
MMBTRA107SS		-	-	2.6	
MMBTRA108SS		-	-	5.8	
MMBTRA109SS		-	-	-	
Input Voltage (OFF) at $-V_o = 5\text{ V}$, $-I_o = 0.1\text{ mA}$	$-V_{I(OFF)}$	0.5	-	-	V
MMBTRA107SS		0.6	-	-	
MMBTRA108SS		1.5	-	-	
MMBTRA109SS		-	-	-	
Transition Frequency at $-V_o = 10\text{ V}$, $-I_o = 5\text{ mA}$	f_T ¹⁾	-	200	-	MHz

1) Characteristic of transistor only.