

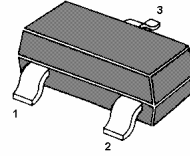
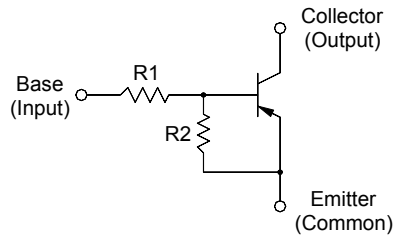
MMBTRA107SS...MMBTRA109SS

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



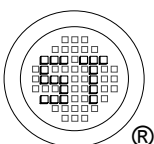
1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

Resistor Values

Type	R1 (KΩ)	R2 (KΩ)
MMBTRA107SS	10	47
MMBTRA108SS	22	47
MMBTRA109SS	47	22

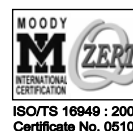
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Output Voltage	$-V_o$	50	V
Input Voltage	V_i	MMBTRA107SS	- 30, 6
		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	$^\circ\text{C}$



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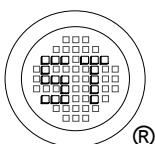
Dated : 29/10/2007

MMBTRA107SS...MMBTRA109SS

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

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

¹⁾ Characteristic of transistor only.



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