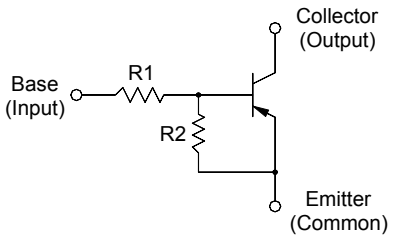
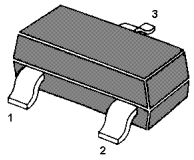
MMBTRA107SS…MMBTRA109SS

PNP Silicon Epitaxial Planar Transistor

for switching, interface circuit and drive circuit applications





1. Base 2. Emitter 3. Collector

TO-236 Plastic Package

Features

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

Resistor Values

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

Absolute Maximum Ratings (T_a = 25 °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	°C
Storage Temperature Range		T_{Stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

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

[1)] Characteristic of transistor only.