

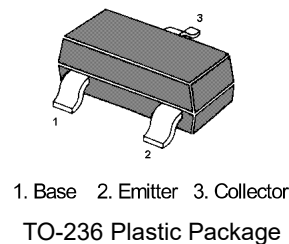
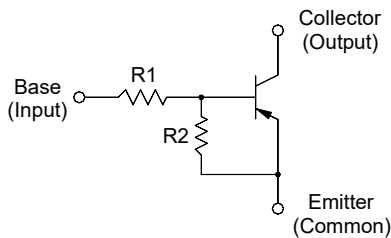
MMBTRA107SS...MMBTRA109SS

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

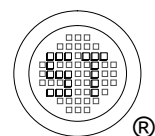


Resistor Values

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

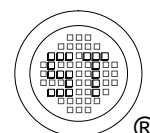


MMBTRA107SS...MMBTRA109SS

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_O = 5\text{ V}$, $-I_O = 10\text{ mA}$	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

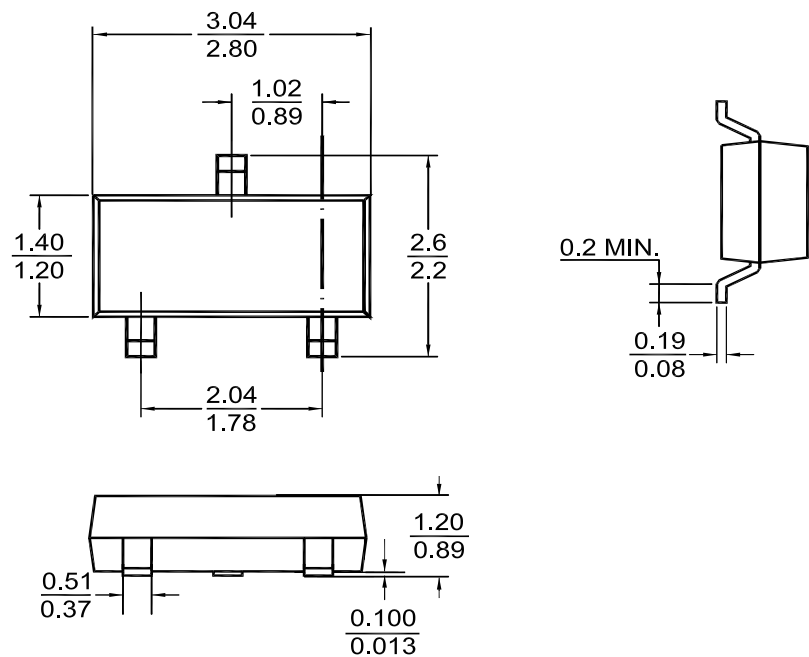
¹⁾ Characteristic of transistor only.



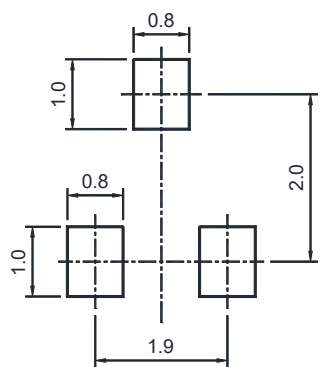
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Package Outline (Dimensions in mm)

TO-236



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
TO-236	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" ** " = Part No.
" YM " = Date Code Marking
" Y " = Year
" M " = Month
Font type: Arial

