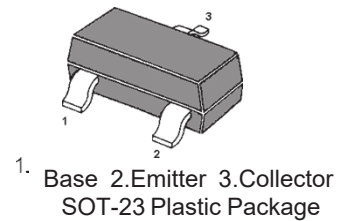
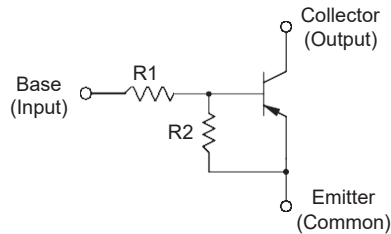


MMBTRA107SS...MMBTRA109SS PNP Silicon Epitaxial Planar Transistor

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 (K Ω)	R2 (K Ω)	Marking Code
MMBTRA107SS	10	47	YC
MMBTRA108SS	22	47	YD
MMBTRA109SS	47	22	YE

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

Parameter	Symbol	Value	Unit
Output Voltage	$-V_o$	50	V
Input Voltage	V_i	- 30, 6	V
		- 40, 7	
		- 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 $T_a = 25\text{ }^\circ\text{C}$

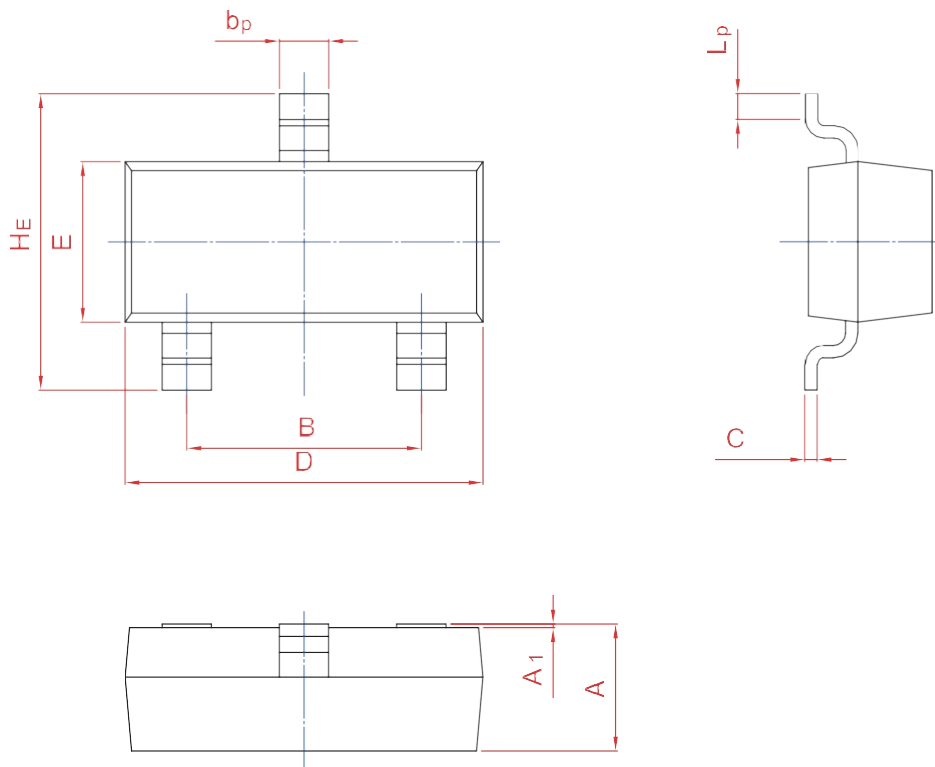
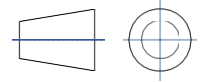
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_O = 5\text{ V}$, $-I_O = 10\text{ mA}$	G_I	80	-	-	-
MMBTRA107SS		80	-	-	-
MMBTRA108SS		80	-	-	-
MMBTRA109SS		70	-	-	-
Output Cutoff Current at $-V_O = 50\text{ V}$	$-I_{O(OFF)}$	-	-	500	nA
Input Current at $-V_I = 5\text{ V}$	$-I_I$	-	-	0.88	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.

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b_p	C	D	E	H_E	A_1	L_p
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20