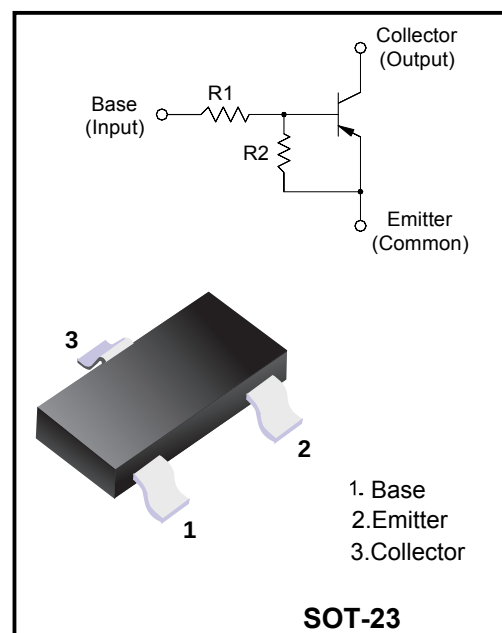


PNP Silicon Epitaxial Planar Transistor

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 (Ta =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_S	- 55 to + 150	°C

Characteristics at Ta = 25°C

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

1) Characteristic of transistor only.

Ordering information

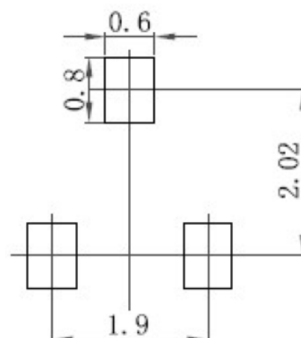
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



Disclaimer

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