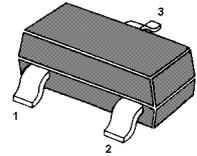
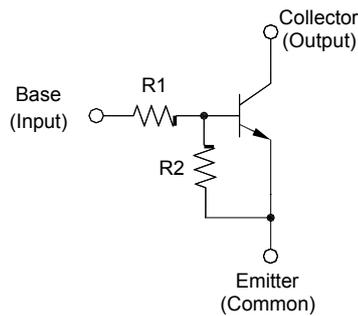


NPN Silicon Epitaxial Planar Transistor

for high current switching, interface circuit and driver circuit application.

Feature

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



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

Resistor Values

Type	R1 (K Ω)	R2 (K Ω)
MMBTRC241S	1	1
MMBTRC242S	2.2	2.2
MMBTRC243S	4.7	4.7
MMBTRC244S	10	10
MMBTRC245S	1	10
MMBTRC246S	2.2	10

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

Parameter		Symbol	Value	Unit
Output Voltage		V_o	50	V
Input Voltage	MMBTRC241S	V_i	10, -10	V
	MMBTRC242S		12, -10	
	MMBTRC243S		20, -10	
	MMBTRC244S		30, -10	
	MMBTRC245S		10, -5	
	MMBTRC246S		12, -6	
Output Current		I_o	800	mA
Total Power Dissipation		P_{tot}	200	mW
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ °C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_O = 5\text{ V}$, $I_O = 50\text{ mA}$	MMBTRC241S MMBTRC242S MMBTRC243S MMBTRC244S MMBTRC245S MMBTRC246S	33 39 47 56 56 56	- - - - - -	- - - - - -	- - - - - -
Output Cutoff Current at $V_O = 30\text{ V}$	$I_{O(OFF)}$	-	-	10	μA
Input Current at $V_I = 5\text{ V}$	MMBTRC241S MMBTRC242S MMBTRC243S MMBTRC244S MMBTRC245S MMBTRC246S	- - - - - -	- - - - - -	7.2 3.8 1.8 0.88 7.2 3.6	mA
Output Voltage at $I_O = 50\text{ mA}$, $I_I = 2.5\text{ mA}$	$V_{O(ON)}$	-	-	0.3	V
Input Voltage (ON) at $V_O = 0.3\text{ V}$, $I_O = 20\text{ mA}$	MMBTRC241S MMBTRC242S MMBTRC243S MMBTRC244S MMBTRC245S MMBTRC246S	- - - - - -	- - - - - -	3 3 3 3 3 2	V
Input Voltage (OFF) at $V_O = 5\text{ V}$, $I_O = 0.1\text{ mA}$	MMBTRC241S~244S MMBTRC245S~246S	0.5 0.3	- -	- -	V
Transition Frequency at $V_O = 10\text{ V}$, $I_O = 5\text{ mA}$, $f = 100\text{ MHz}$	f_T ¹⁾	-	200	-	MHz

¹⁾ Characteristic of transistor only.

