

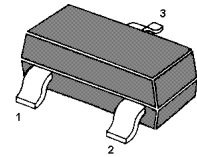
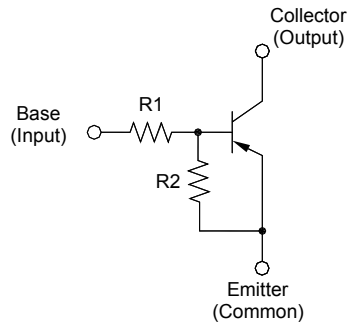
MMBTRA221SS...MMBTRA226SS

PNP Silicon Epitaxial Planar Transistor

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

Feature

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



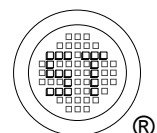
1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

Resistor Values

Type	R1 (KΩ)	R2 (KΩ)
MMBTRA221SS	1	1
MMBTRA222SS	2.2	2.2
MMBTRA223SS	4.7	4.7
MMBTRA224SS	10	10
MMBTRA225SS	1	10
MMBTRA226SS	2.2	10

Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
Output Voltage		-V _o	50	V
Input Voltage	MMBTRA221SS	-V _i	10, -10	V
	MMBTRA222SS		12, -10	
	MMBTRA223SS		20, -10	
	MMBTRA224SS		30, -10	
	MMBTRA225SS		10, -5	
	MMBTRA226SS		12, -6	
Output Current		-I _o	300	mA
Total Power Dissipation		P _{tot}	200	mW
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	- 55 to + 150	°C

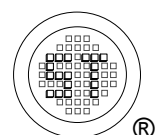


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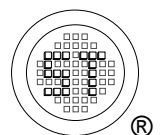
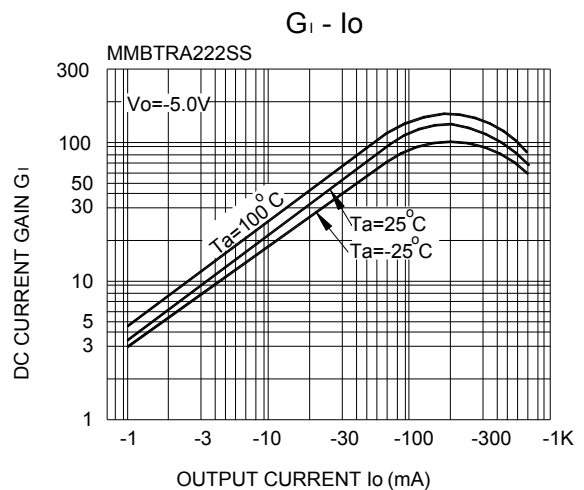
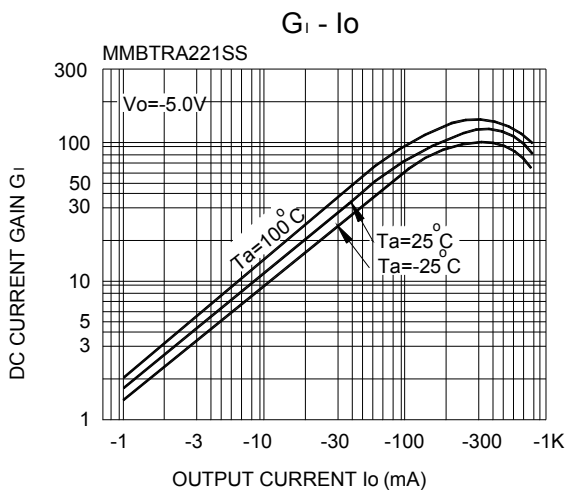
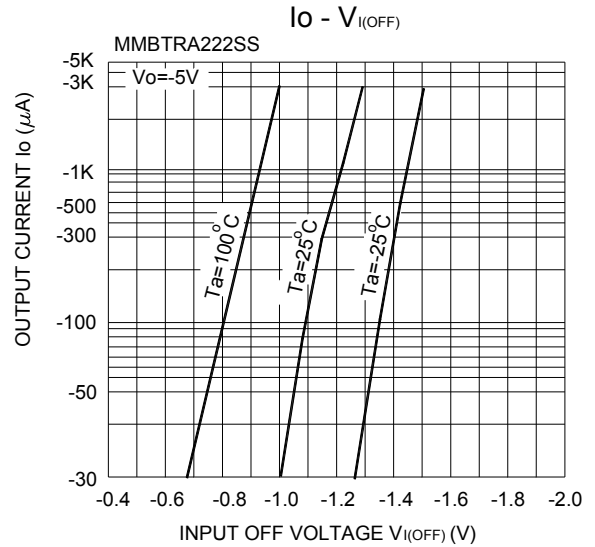
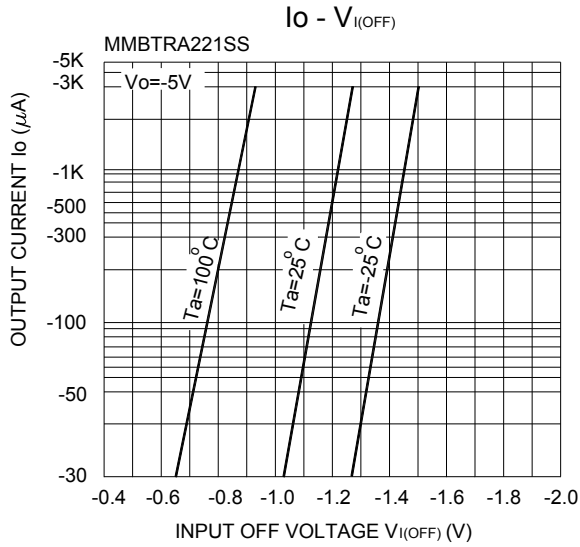
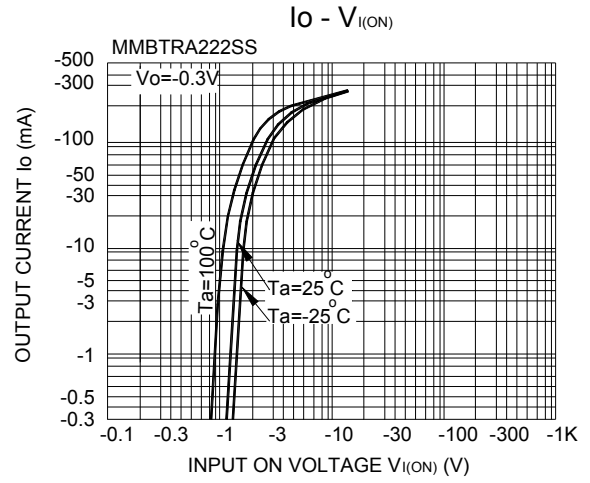
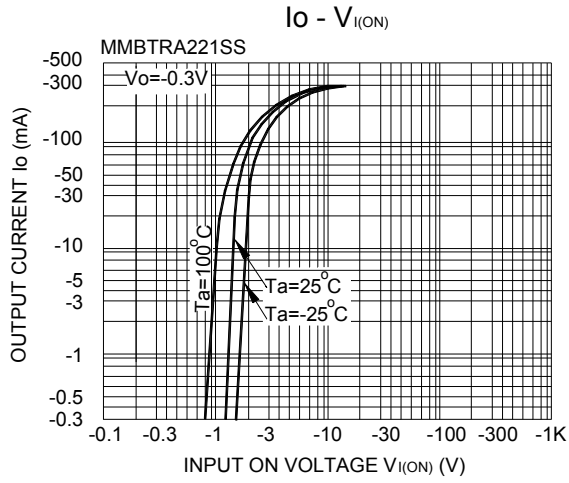
Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_o = 5\text{ V}$, $-I_o = 50\text{ mA}$	MMBTRA221SS	33	-	-	-
	MMBTRA222SS	39	-	-	-
	MMBTRA223SS	47	-	-	-
	MMBTRA224SS	56	-	-	-
	MMBTRA225SS	56	-	-	-
	MMBTRA226SS	56	-	-	-
Output Cutoff Current at $-V_o = 30\text{ V}$	$-I_{O(OFF)}$	-	-	10	μA
Input Current at $-V_i = 5\text{ V}$	MMBTRA221SS	-	-	7.2	mA
	MMBTRA222SS	-	-	3.8	
	MMBTRA223SS	-	-	1.8	
	MMBTRA224SS	-	-	0.88	
	MMBTRA225SS	-	-	7.2	
	MMBTRA226SS	-	-	3.6	
Output Voltage at $-I_o = 10\text{ mA}$, $-I_i = 0.5\text{ mA}$	$-V_{O(ON)}$	-	-	0.6	V
Input Voltage (ON) at $-V_o = 0.3\text{ V}$, $-I_o = 20\text{ mA}$	MMBTRA221SS	-	-	3	V
	MMBTRA222SS	-	-	3	
	MMBTRA223SS	-	-	3	
	MMBTRA224SS	-	-	3	
	MMBTRA225SS	-	-	3	
	MMBTRA226SS	-	-	2	
Input Voltage (OFF) at $-V_o = 5\text{ V}$, $-I_o = 0.1\text{ mA}$	MMBTRA221SS~224SS	0.5	-	-	V
	MMBTRA225SS~226SS	0.3	-	-	
Transition Frequency at $-V_o = 10\text{ V}$, $-I_o = 5\text{ mA}$, $f = 100\text{ MHz}$	f_T ¹⁾	-	200	-	MHz

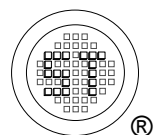
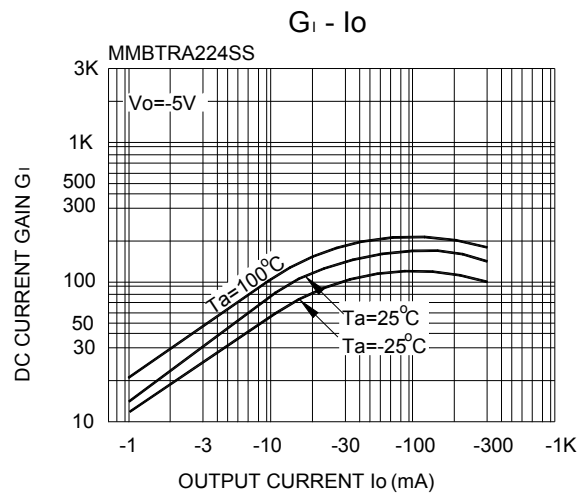
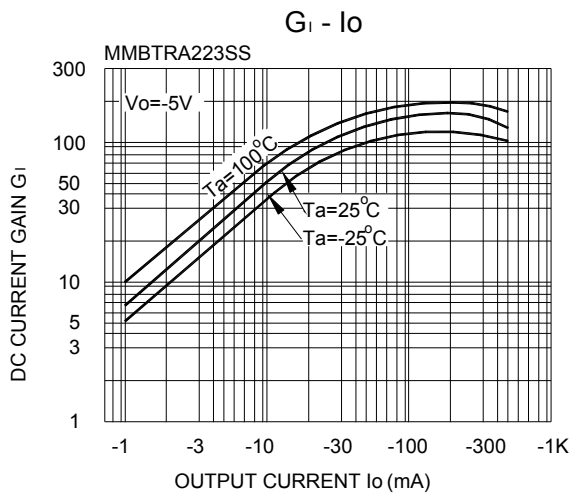
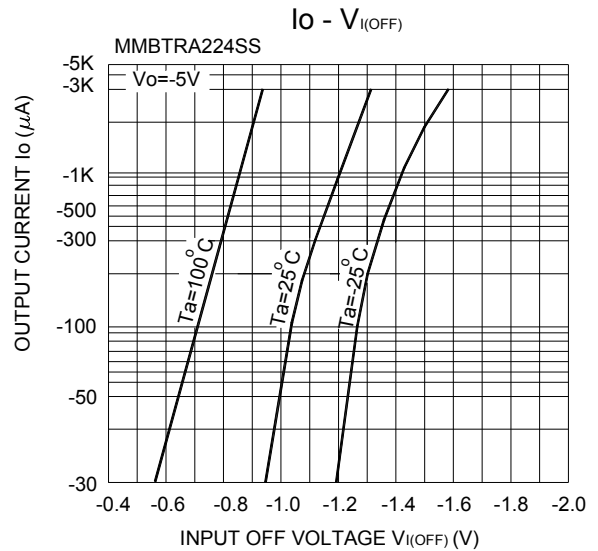
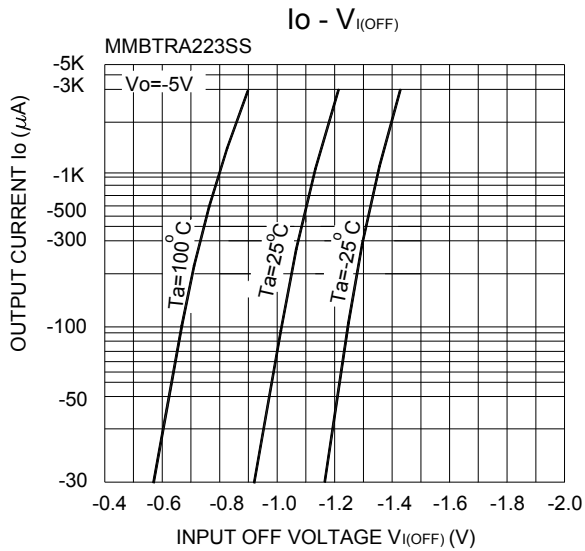
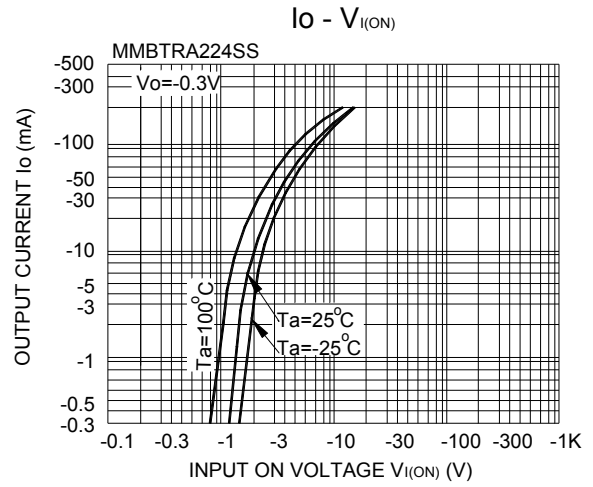
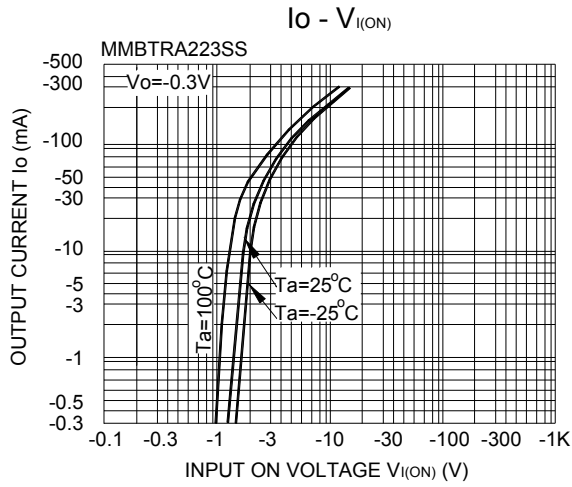
¹⁾ Characteristic of transistor only.



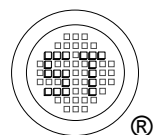
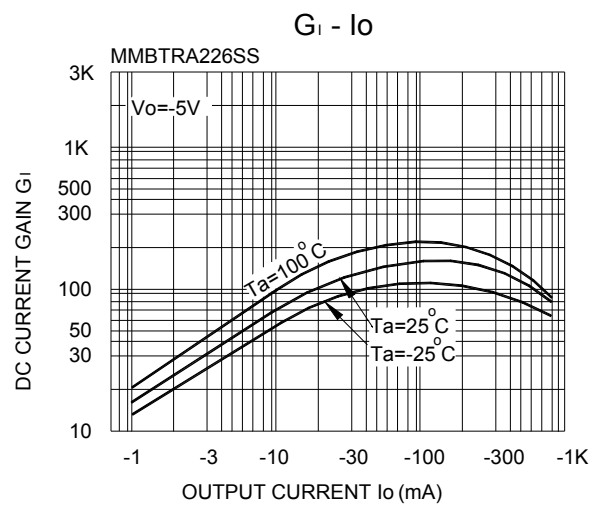
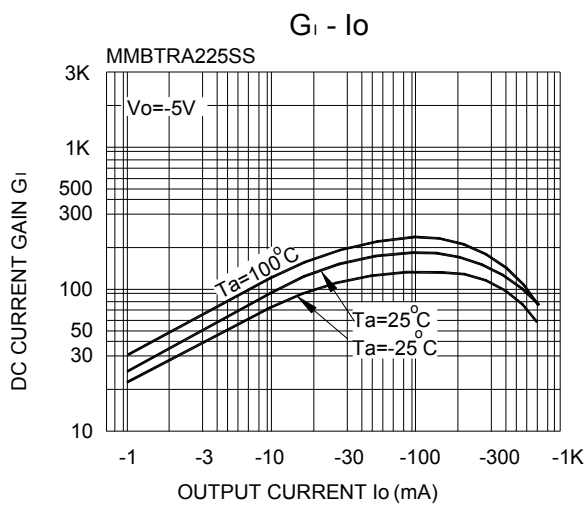
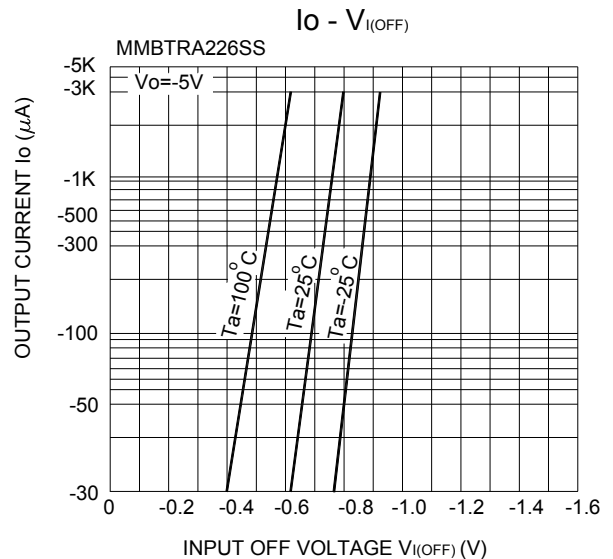
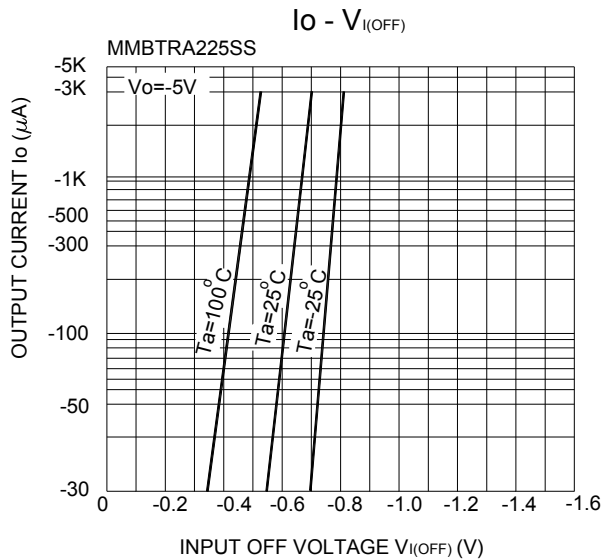
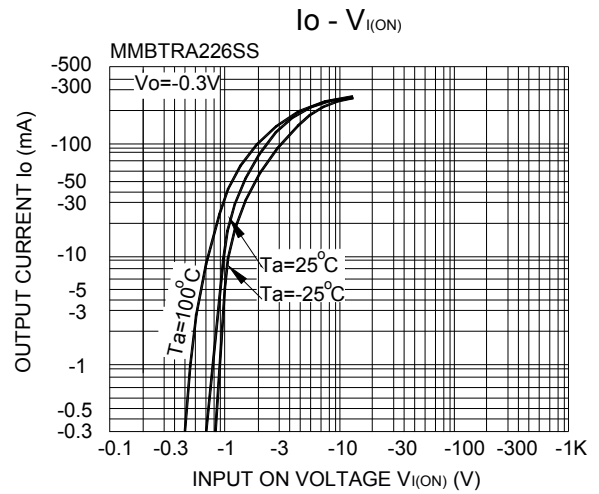
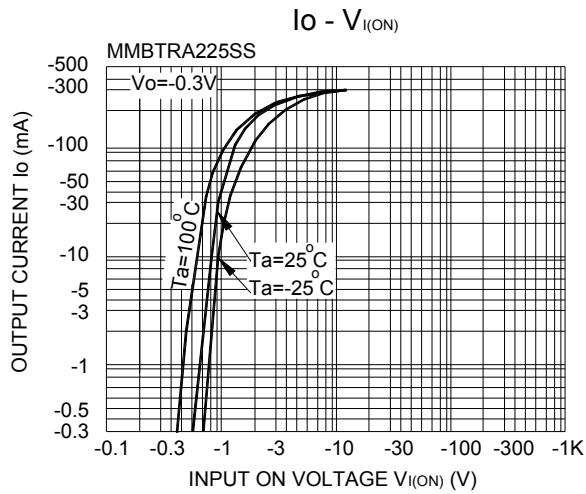
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