

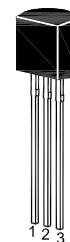
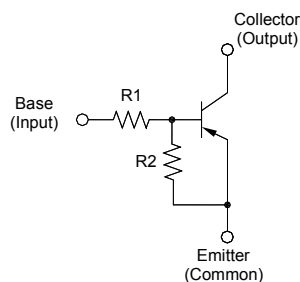
RA116S...RA122S

PNP Silicon Epitaxial Planar Transistors

for switching, interface circuit and driver circuit application.

Feature

- With Built-in Bias Resistor
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process



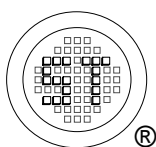
1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

Resistor Values

Type	R1 (K Ω)	R2 (K Ω)
RA116S	1	10
RA117S	2.2	2.2
RA118S	2.2	10
RA119S	4.7	10
RA120S	10	4.7
RA121S	47	10
RA122S	100	100

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

Parameter	Symbol	Value	Unit
Output Voltage	$-V_o$	50	V
Input Voltage	$-V_i$	10, -5	V
		12, -10	
		12, -5	
		20, -7	
		30, -10	
		40, -15	
		40, -10	
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_{stg}	- 55 to + 150	$^\circ\text{C}$



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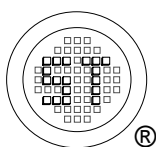


RA116S...RA122S

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_o = 5\text{ V}$, $-I_o = 5\text{ mA}$ at $-V_o = 5\text{ V}$, $-I_o = 20\text{ mA}$ at $-V_o = 5\text{ V}$, $-I_o = 10\text{ mA}$ at $-V_o = 5\text{ V}$, $-I_o = 10\text{ mA}$ at $-V_o = 5\text{ V}$, $-I_o = 10\text{ mA}$ at $-V_o = 5\text{ V}$, $-I_o = 5\text{ mA}$ at $-V_o = 5\text{ V}$, $-I_o = 5\text{ mA}$	RA116S RA117S RA118S RA119S RA120S RA121S RA122S	33 20 33 30 24 33 62	- - - - - - -	- - - - - - -	- - - - - - -
Output Cutoff Current at $-V_o = 50\text{ V}$	$-I_{O(OFF)}$	-	-	500	nA
Input Current at $-V_i = 5\text{ V}$	RA116S RA117S RA118S RA119S RA120S RA121S RA122S	- - - - - - -	- - - - - - -	7.2 3.8 3.8 1.8 0.88 0.16 0.15	mA
Output Voltage at $-I_o = 10\text{ mA}$, $-I_i = 0.5\text{ mA}$ at $-I_o = 5\text{ mA}$, $-I_i = 0.25\text{ mA}$	RA116S~RA121S RA122S	- -	- -	0.3 0.3	V
Input Voltage (ON) at $-V_o = 0.3\text{ V}$, $-I_o = 20\text{ mA}$ at $-V_o = 0.3\text{ V}$, $-I_o = 20\text{ mA}$ at $-V_o = 0.3\text{ V}$, $-I_o = 20\text{ mA}$ at $-V_o = 0.3\text{ V}$, $-I_o = 20\text{ mA}$ at $-V_o = 0.3\text{ V}$, $-I_o = 2\text{ mA}$ at $-V_o = 0.3\text{ V}$, $-I_o = 2\text{ mA}$ at $-V_o = 0.3\text{ V}$, $-I_o = 1\text{ mA}$	RA116S RA117S RA118S RA119S RA120S RA121S RA122S	- - - - - - -	- - - - - - -	3 3 3 2.5 3 5 3	V
Input Voltage (OFF) at $-V_{CC} = 5\text{ V}$, $-I_o = 100\text{ }\mu\text{A}$	RA116S RA117S RA118S RA119S RA120S RA121S RA122S	0.3 0.5 0.3 0.3 0.8 1 0.5	- - - - - - -	- - - - - - -	V
Transition Frequency at $-V_o = 10\text{ V}$, $-I_o = 5\text{ mA}$	f_T ¹⁾	-	250	-	MHz

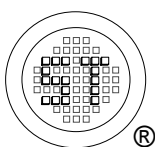
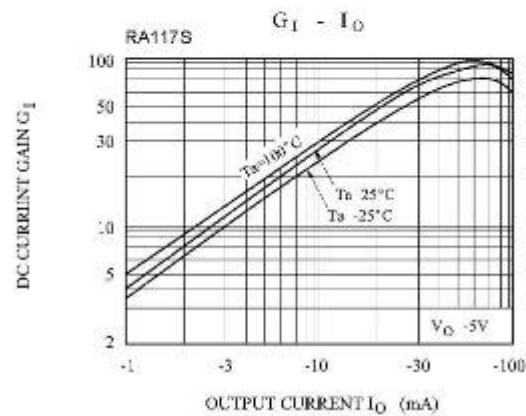
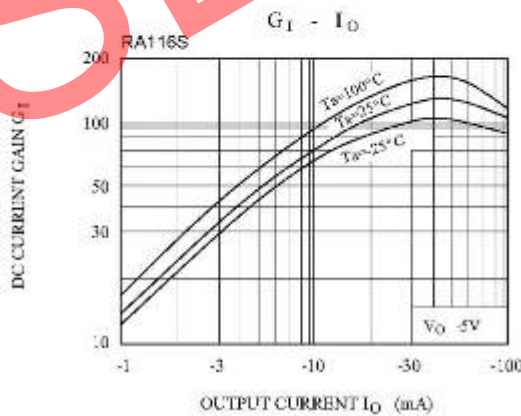
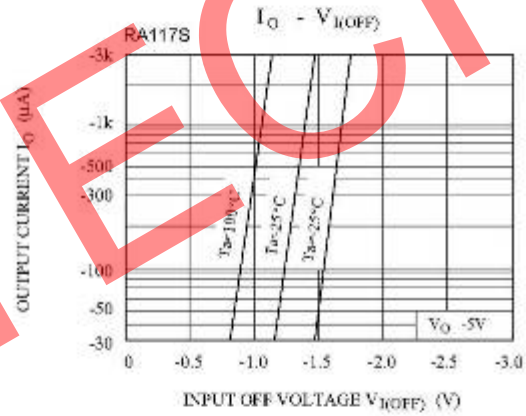
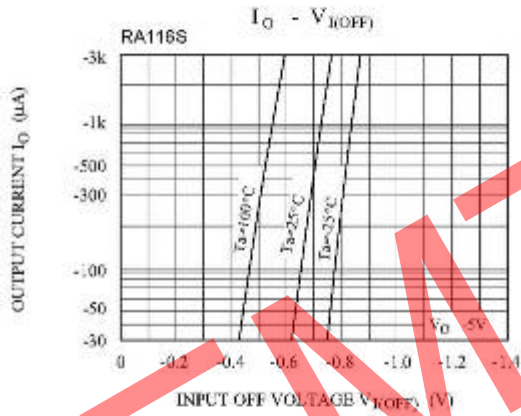
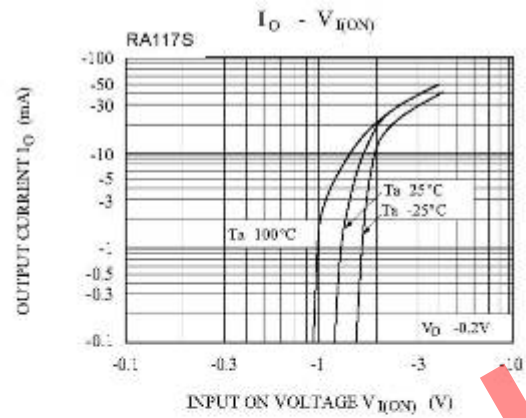
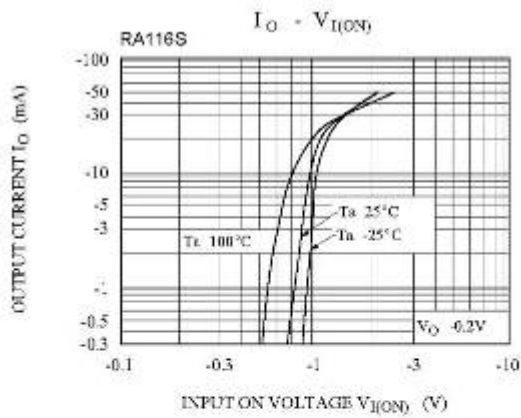
¹⁾ Characteristic of transistor only.



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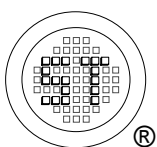
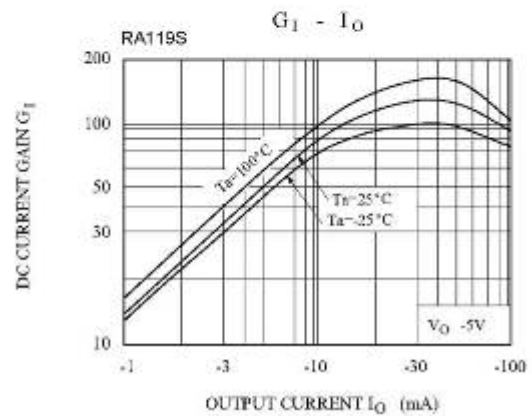
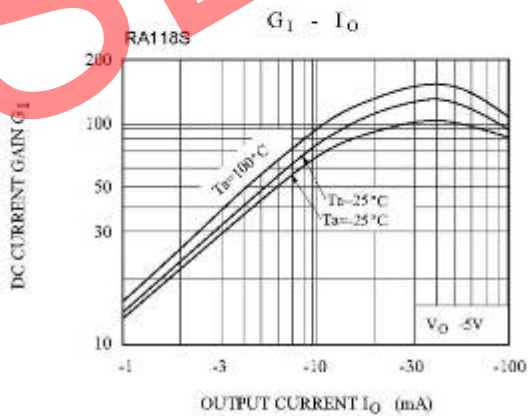
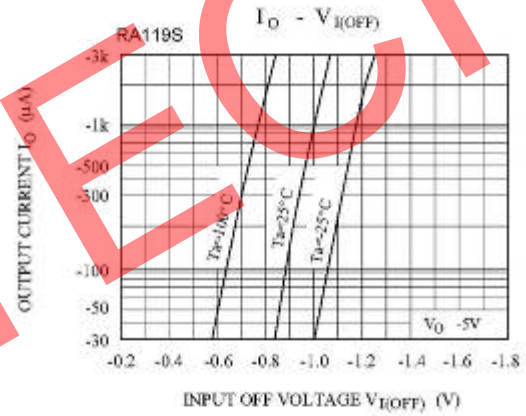
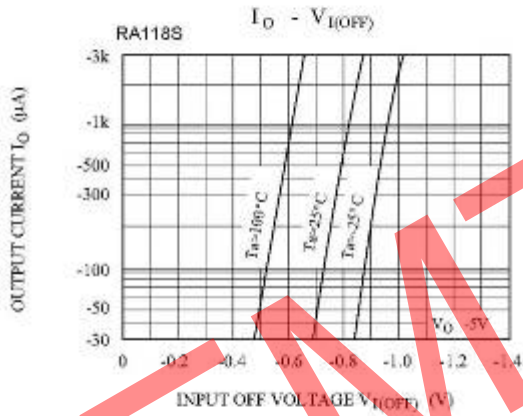
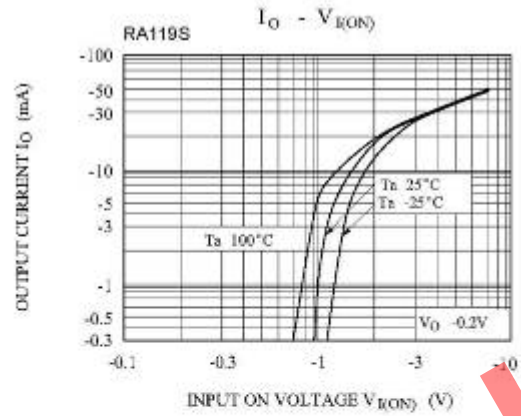
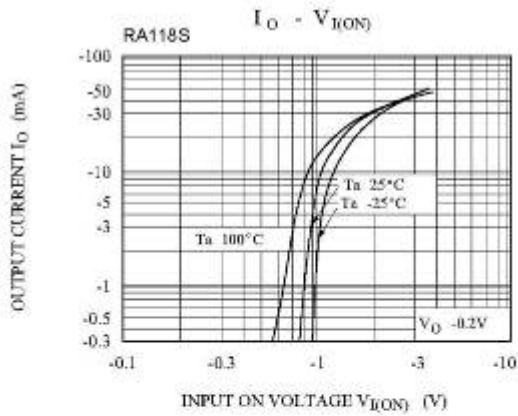
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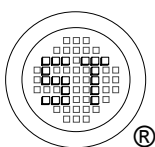
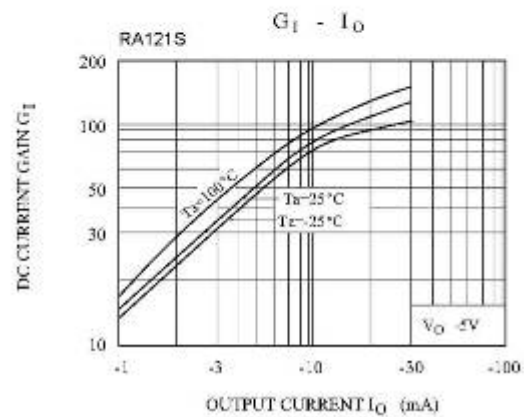
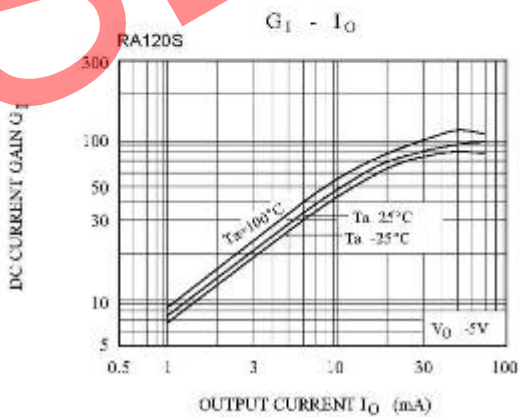
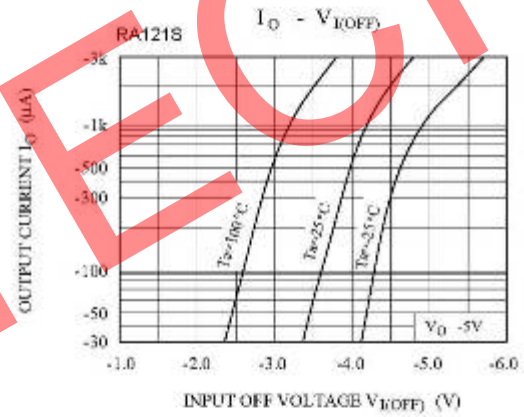
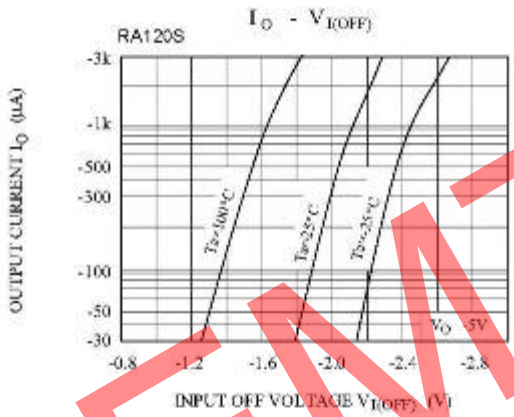
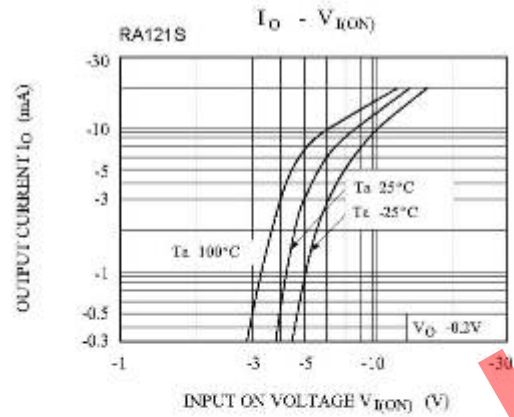
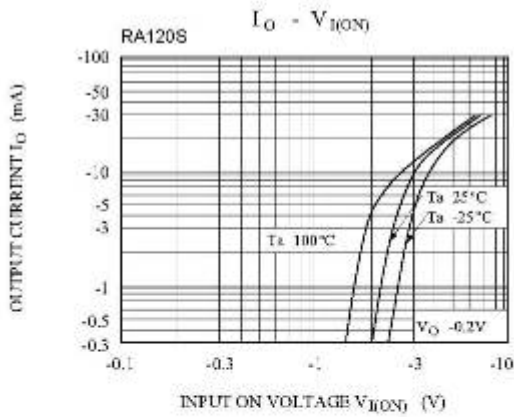
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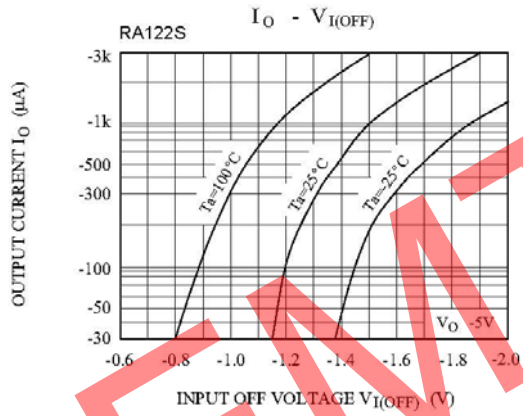
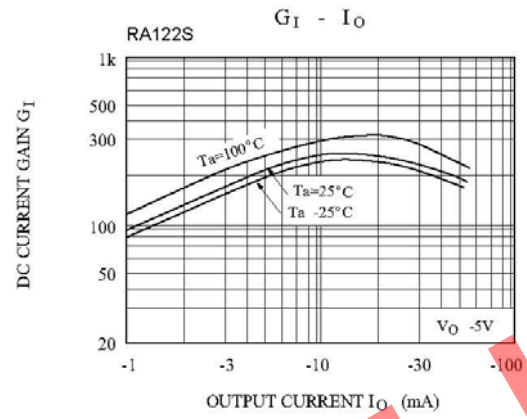
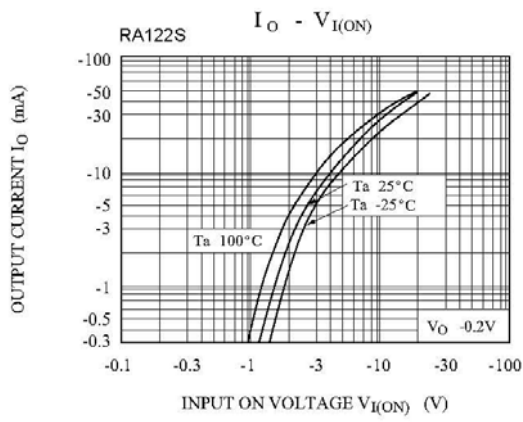
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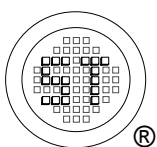
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