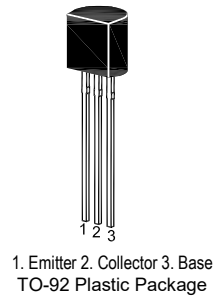
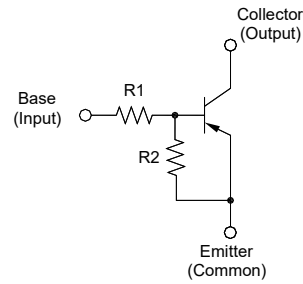


TA114

PNP Silicon Epitaxial Planar Digital Transistor

Features

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



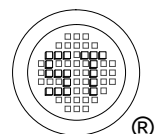
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Supply Voltage	$-V_{CC}$	50	V
Input Voltage	$-V_{IN}$	- 10 to + 40	V
Output Current	$-I_O$	50	mA
Maximum Output Current	$-I_{C(Max.)}$	100	mA
Power Dissipation	P_{tot}	300	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_O = 5\text{ V}$, $-I_O = 5\text{ mA}$	h_{FE}	30	-	-	-
Output Current at $-V_{CC} = 50\text{ V}$	$-I_{O(off)}$	-	-	0.5	μA
Input Current at $-V_I = 5\text{ V}$	$-I_I$	-	-	0.88	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 $-V_O = 0.3\text{ V}$, $-I_O = 10\text{ mA}$	$-V_{I(ON)}$	-	-	3	V
Input Voltage (OFF) at $-V_{CC} = 5\text{ V}$, $-I_O = 100\text{ }\mu\text{A}$	$-V_{I(OFF)}$	0.5	-	-	V
Transition frequency ¹⁾ at $-V_{CE} = 10\text{ V}$, $I_E = 5\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	250	-	MHz
Input Resistance	R_I	7	10	13	K Ω
Resistance Ratio	R_2 / R_1	0.8	1	1.2	-

¹⁾ Transition frequency of the device.



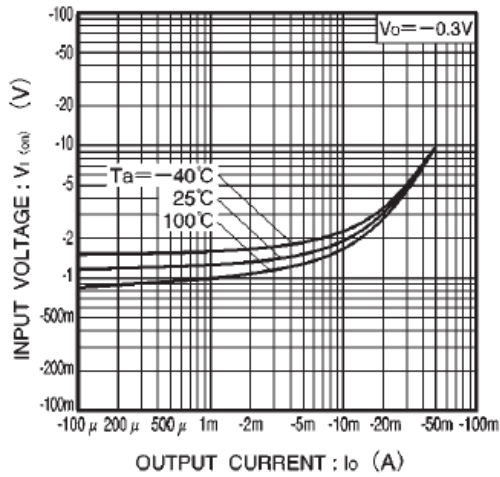


Fig.1 Input voltage vs. output current (ON characteristics)

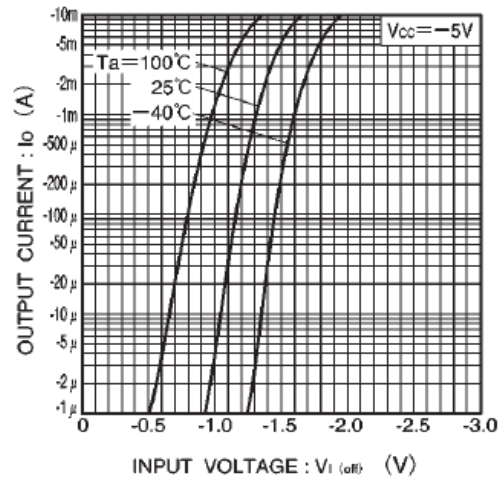


Fig.2 Output current vs. input voltage (OFF characteristics)

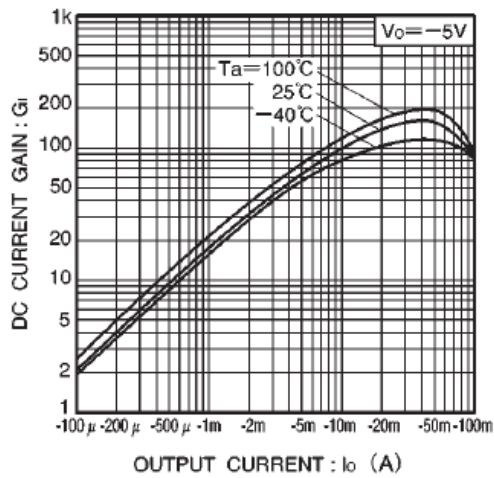


Fig.3 DC current gain vs. output current

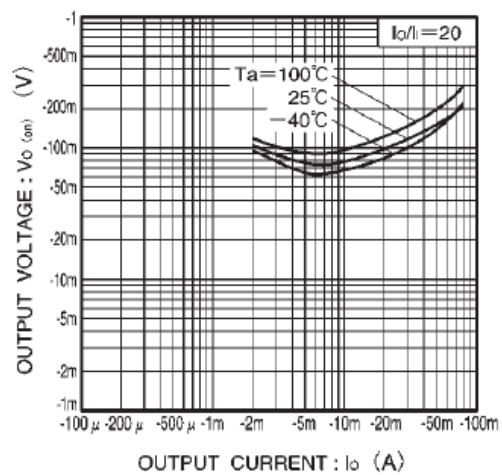


Fig.4 Output voltage vs. output current

