



Shantou Huashan Electronic Devices Co.,Ltd.

NPN DIGITAL TRANSISTOR

HC114Y

APPLICATIONS

Switching Circuit, Interface Circuit.

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

T_{stg} —Storage Temperature..... $-55\sim 150^{\circ}\text{C}$

T_j —Junction Temperature..... 150°C

P_C —Collector Dissipation..... 300mW

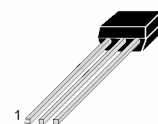
V_{CBO} —Collector-Base Voltage..... 50V

V_{CEO} —Collector-Emitter Voltage..... 50V

V_{EBO} —Emitter-Base Voltage..... 6V

I_C —Collector Current..... 100mA

TO-92S



1—Emitter, E

2—Collector, C

3—Base, B

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CBO}	Collector-Base Breakdown Voltage	50			V	$I_C=10\mu\text{A}$, $I_E=0$
BV_{CEO}	Collector-Emitter Breakdown Voltage	50			V	$I_C=1\text{mA}$, $I_B=0$
I_{CBO}	Collector Cut-off Current			0.1	μA	$V_{\text{CB}}=40\text{V}$, $I_E=0$
I_{CEO}	Collector Cut-off Current			0.5	μA	$V_{\text{CE}}=40\text{V}$, $I_B=0$
I_{EBO}	Emitter Cut-off Current	67	88	125	μA	$V_{\text{EB}}=5\text{V}$, $I_C=0$
H_{FE}	DC Current Gain	70				$V_{\text{CE}}=5\text{V}$, $I_C=5\text{mA}$
$V_{\text{CE(sat)}}$	Collector- Emitter Saturation Voltage		0.1	0.3	V	$I_C=10\text{mA}$, $I_B=0.5\text{mA}$
V_i (off)	Input Off Voltage	0.5	0.7	0.9	V	$V_{\text{CE}}=5\text{V}$, $I_C=0.1\text{mA}$
V_i (on)	Input On Voltage	0.7	1.0	2.0	V	$V_{\text{CE}}=0.2\text{V}$, $I_C=5\text{mA}$
R1	Input Resistor	7.0	10	13	Kohm	
R1/ R2	Resistor Ratio	0.193	0.213	0.234		
fr	Current Gain-Bandwidth Product		250		MHz	$V_{\text{CE}}=10\text{V}$, $I_C=5\text{mA}$
Cob	Output Capacitance		3.7		pF	$V_{\text{CB}}=10\text{V}$, $f=1\text{MHz}$



●Electrical characteristic curves

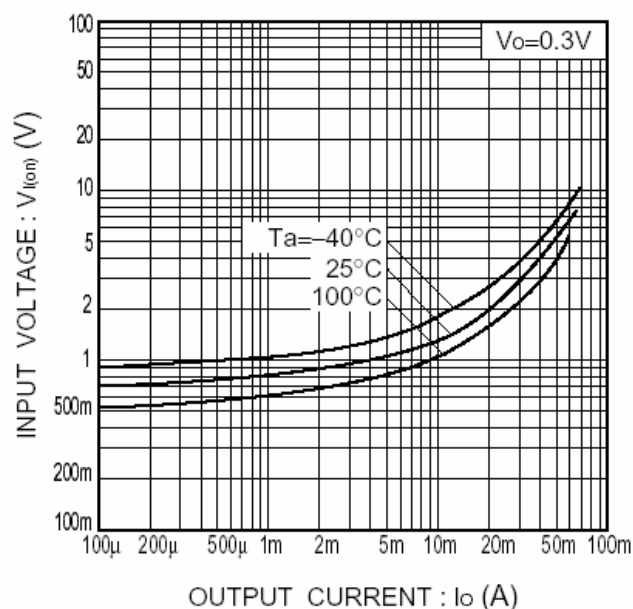


Fig.1 Input voltage vs. output current (ON characteristics)

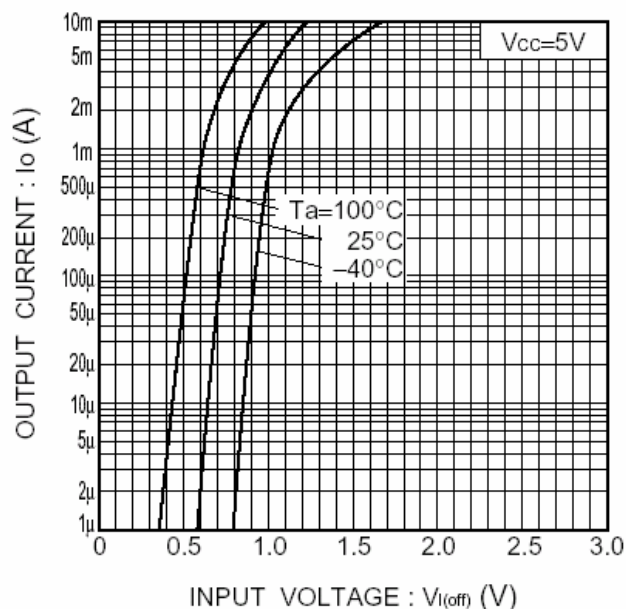


Fig.2 Output current vs. input voltage (OFF characteristics)

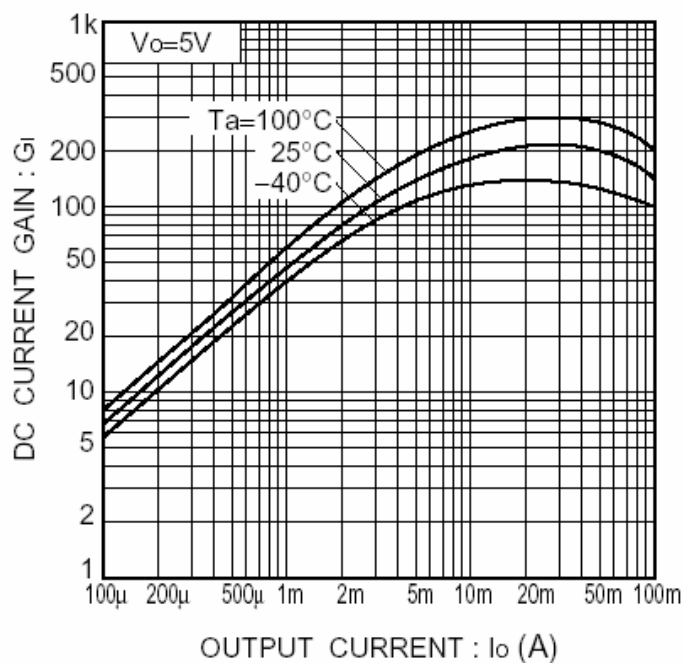


Fig.3 DC current gain vs. output current

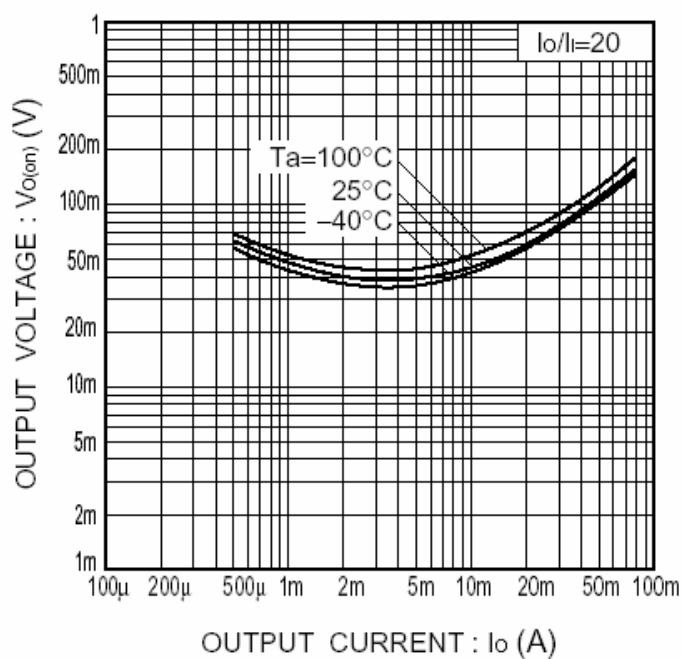


Fig.4 Output voltage vs. output current