

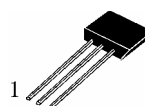


■ SWITCHING CIRCUIT, INVERTER,
INTERFACE CIRCUIT, DRIVER CIRCUIT

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

T_{stg}	Storage Temperature	-55~150 $^{\circ}\text{C}$
T_j	Junction Temperature	150 $^{\circ}\text{C}$
P_C	Collector Dissipation	300mW
V_{CBO}	Collector-Base Voltage	-50V
V_{CEO}	Collector-Emitter Voltage	-50V
V_{EBO}	Emitter-Base Voltage	-10V
I_C	Collector Current	-100mA

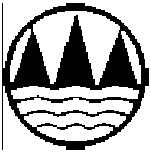
TO-92S



- 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	$I_C=-0.1\text{mA}$, $I_B=0$
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	-195	-250	-360	μA	$V_{\text{EB}}=-5\text{V}$, $I_C=0$
H_{FE}	DC Current Gain	30				$V_{\text{CE}}=-5\text{V}$, $I_C=-5\text{mA}$
$V_{\text{CE(sat)}}$	Collector- Emitter Saturation Voltage		-0.1	-0.3	V	$I_C=-10\text{mA}$, $I_B=-0.5\text{mA}$
$V_I(\text{off})$	Input Off Voltage	-0.8	-1.1	-1.5	V	$V_{\text{CE}}=-5\text{V}$, $I_C=-0.1\text{mA}$
$V_I(\text{on})$	Input On Voltage	-1.0	-2.0	-4.0	V	$V_{\text{CE}}=-0.2\text{V}$, $I_C=-10\text{mA}$
R_1	Input Resistor	7.0	10	13	Kohm	
R_2/R_1	Resistor Ratio	0.8	1.0	1.2		
f_T	Current Gain-Bandwidth Product		250		MHz	$V_{\text{CE}}=-10\text{V}$, $I_C=-5\text{mA}$



●Electrical characteristic curves

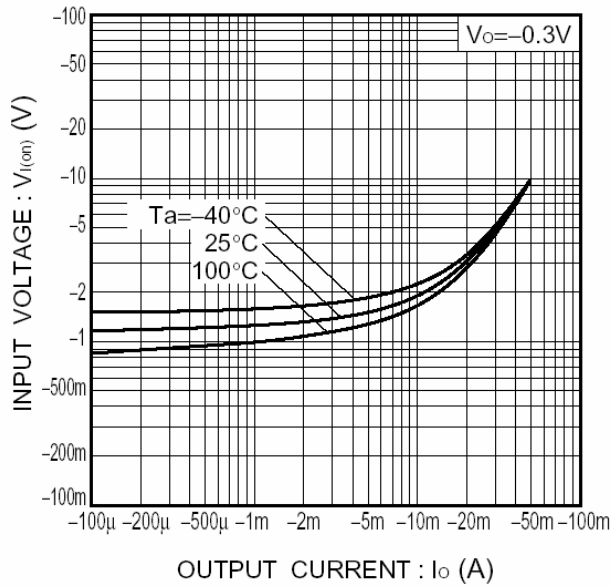


Fig.1 Input voltage vs. output current (ON characteristics)

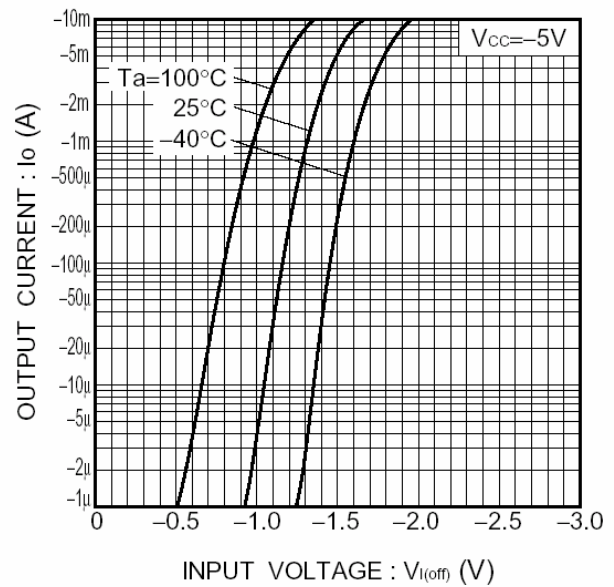


Fig.2 Output current vs. input voltage (OFF characteristics)

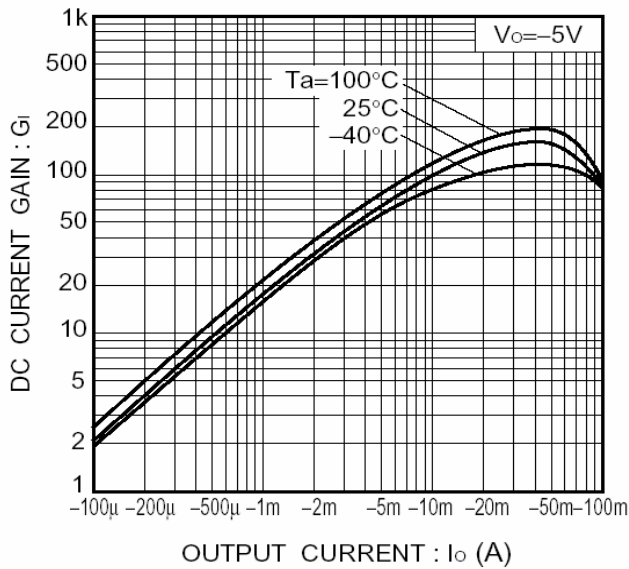


Fig.3 DC current gain vs. output current

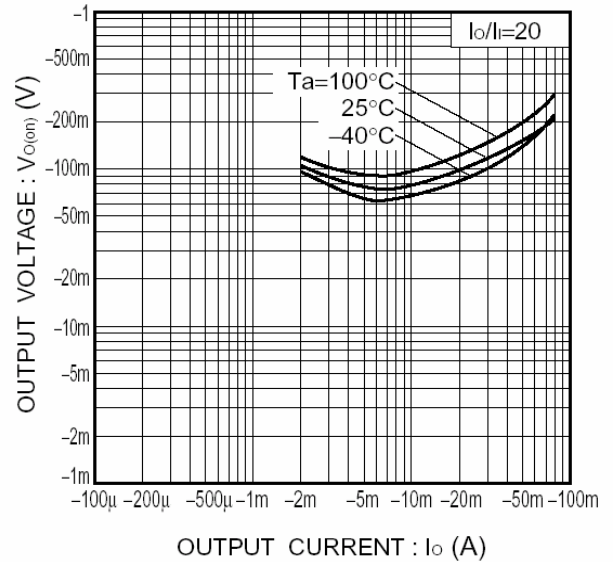


Fig.4 Output voltage vs. output current