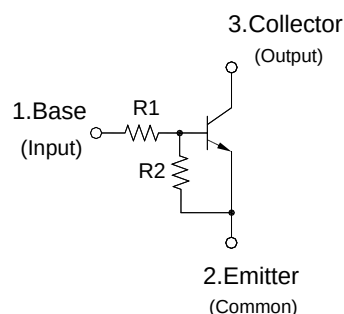




NPN Silicon Epitaxial Planar Digital Transistor

Features

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



MARKING: G21

SOT-23

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

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	50	V
Input Voltage	V_I	- 10 to + 10	V
Collector Current	I_C	500	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 50\text{ mA}$	h_{FE}	82	-	-	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	I_{CBO}	-	-	500	nA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	-	7.2	mA
Collector Emitter Saturation Voltage at $I_C = 50\text{ mA}$, $I_B = 2.5\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Input on Voltage at $V_{CE} = 0.3\text{ V}$, $I_C = 20\text{ mA}$	$V_{I(on)}$	-	-	1.5	V
Input off Voltage at $V_{CE} = 5\text{ V}$, $I_C = 100\text{ }\mu\text{A}$	$V_{I(off)}$	0.3	-	-	V
Transition frequency at $V_{CE} = 10\text{ V}$, $-I_E = 50\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	200	-	MHz
Input Resistance	R_1	0.7	1	1.3	K Ω
Resistance Ratio	R_2 / R_1	0.8	1	1.2	-



●Electrical characteristic curves($T_a = 25^\circ\text{C}$)

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

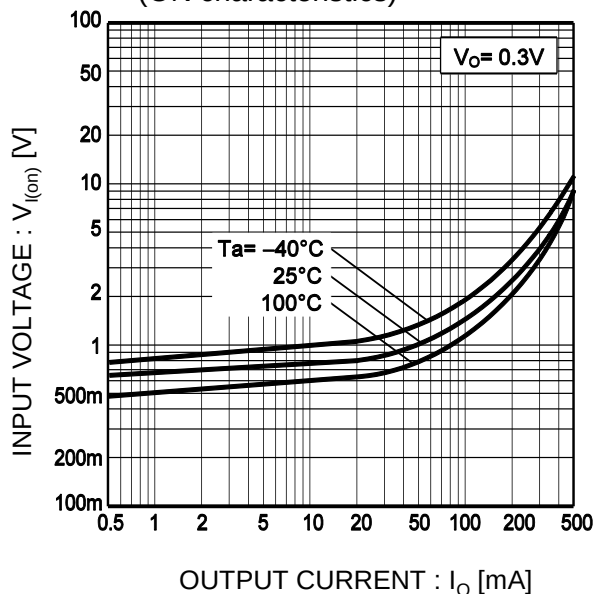


Fig.2 Output current vs. input voltage (OFF characteristics)

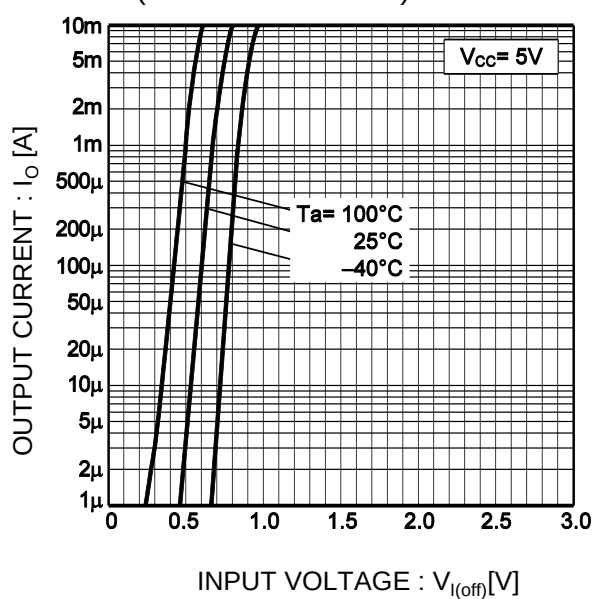


Fig.3 Output current vs. output voltage

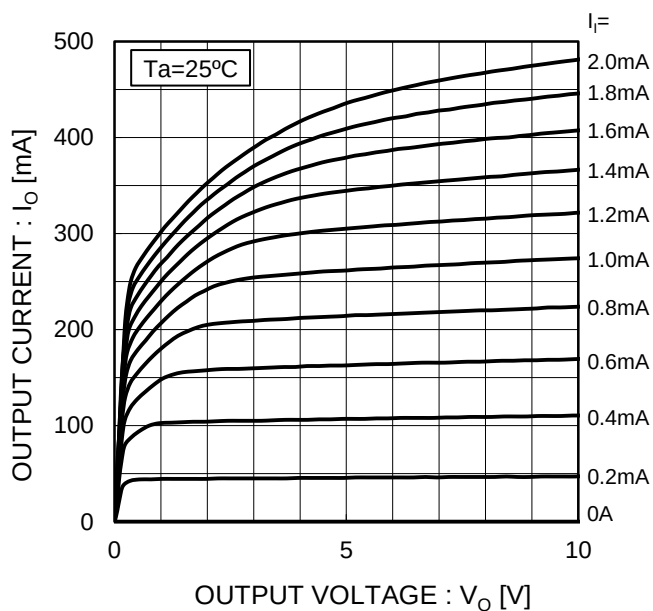
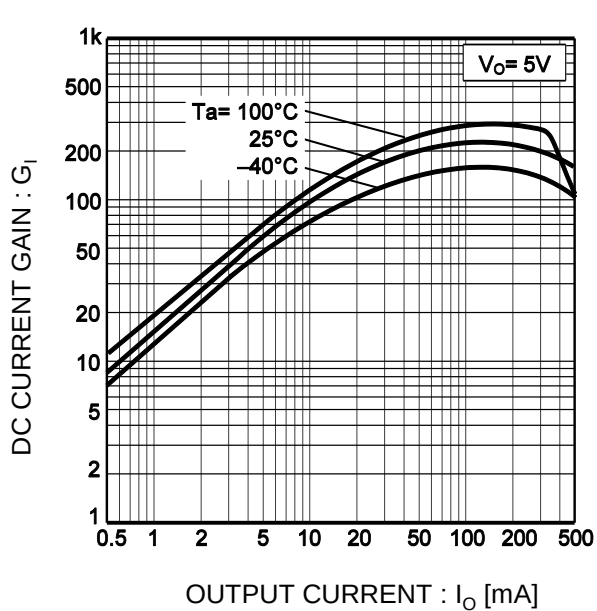


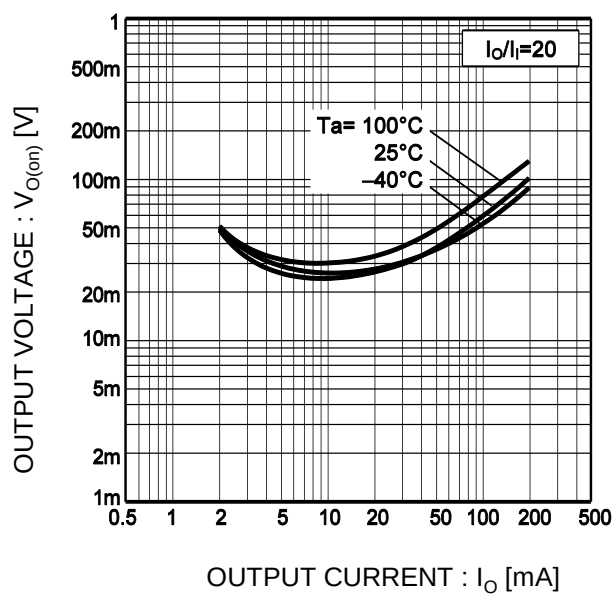
Fig.4 DC current gain vs. output current





●Electrical characteristic curves($T_a = 25^{\circ}\text{C}$)

Fig.5 Output voltage vs. output current

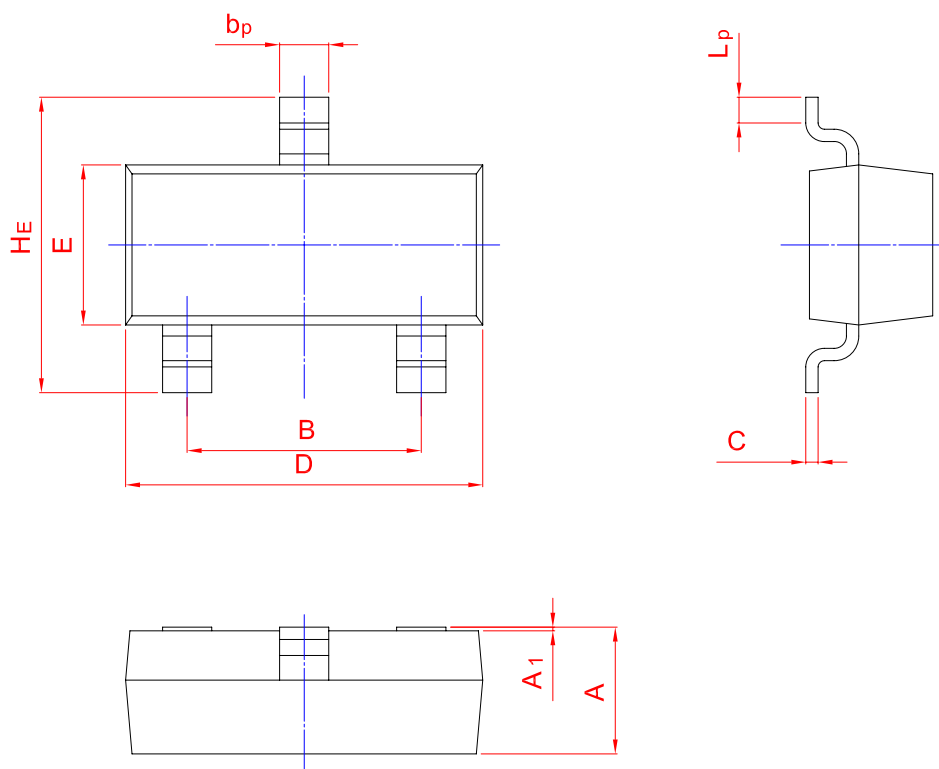




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b_p	C	D	E	H_E	A_1	L_p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20