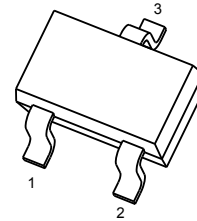
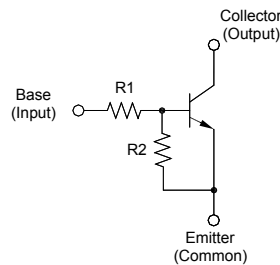


NPN Silicon Epitaxial Planar Digital Transistor

Features

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



1. IN
2. GND
3. OUT

SOT-323

MARKING: 24

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 + 40	V
Collector Current	I_{C}	100	mA
Power Dissipation	P_{tot}	150	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 $V_{\text{CE}} = 5\text{ V}$, $I_{\text{C}} = 5\text{ mA}$	h_{FE}	30	-	-	-
Collector Base Cutoff Current at $V_{\text{CB}} = 50\text{ V}$	I_{CBO}	-	-	500	nA
Emitter Base Cutoff Current at $V_{\text{EB}} = 5\text{ V}$	I_{EBO}	-	-	0.88	mA
Collector Emitter Saturation Voltage at $I_{\text{C}} = 10\text{ mA}$, $I_{\text{B}} = 0.5\text{ mA}$	$V_{\text{CE(sat)}}$	-	-	0.3	V
Input on Voltage at $V_{\text{CE}} = 0.3\text{ V}$, $I_{\text{C}} = 10\text{ mA}$	$V_{\text{I(on)}}$	-	-	3	V
Input off Voltage at $V_{\text{CE}} = 5\text{ V}$, $I_{\text{C}} = 100\text{ }\mu\text{A}$	$V_{\text{I(off)}}$	0.5	-	-	V
Transition frequency at $V_{\text{CE}} = 10\text{ V}$, $-I_{\text{E}} = 5\text{ mA}$, $f = 100\text{ MHz}$	f_{T}	-	250	-	MHz
Input Resistance	R_{I}	7	10	13	$\text{K}\Omega$
Resistance Ratio	$R_{\text{2}} / R_{\text{1}}$	0.8	1	1.2	-

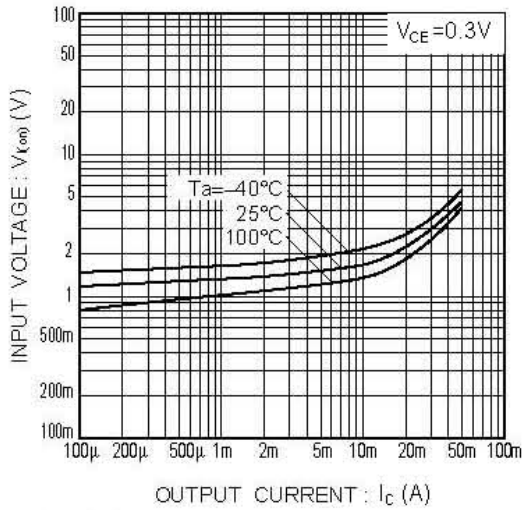


Fig.1 Input voltage vs. output current (ON characteristics)

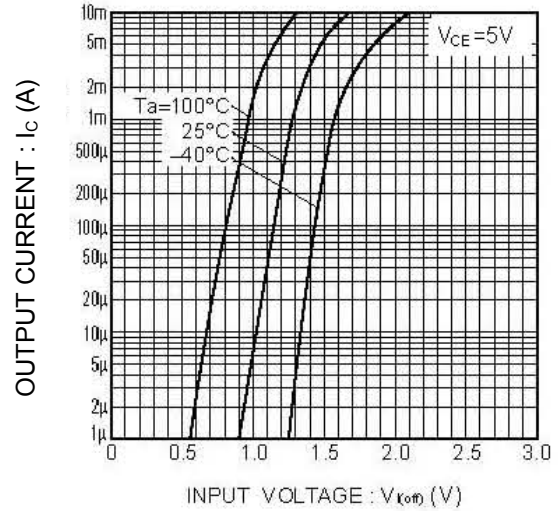


Fig.2 Output current vs. input voltage (OFF characteristics)

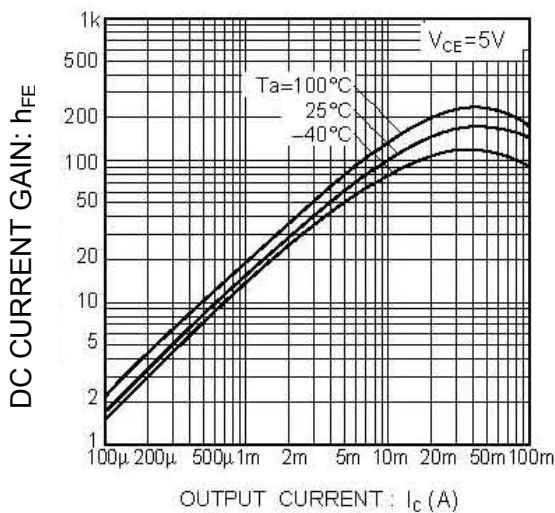


Fig.3 DC current gain vs. output current

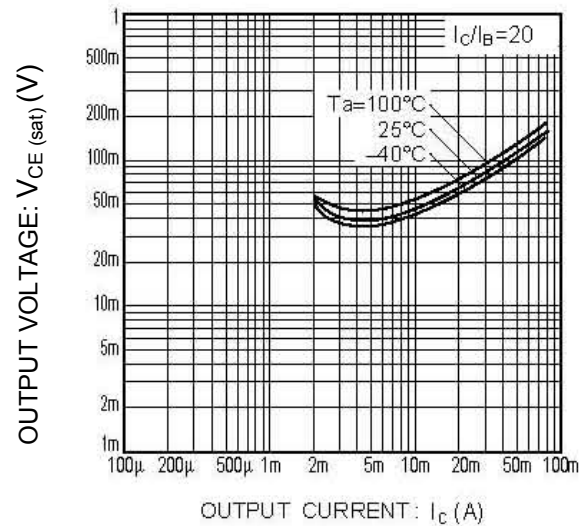
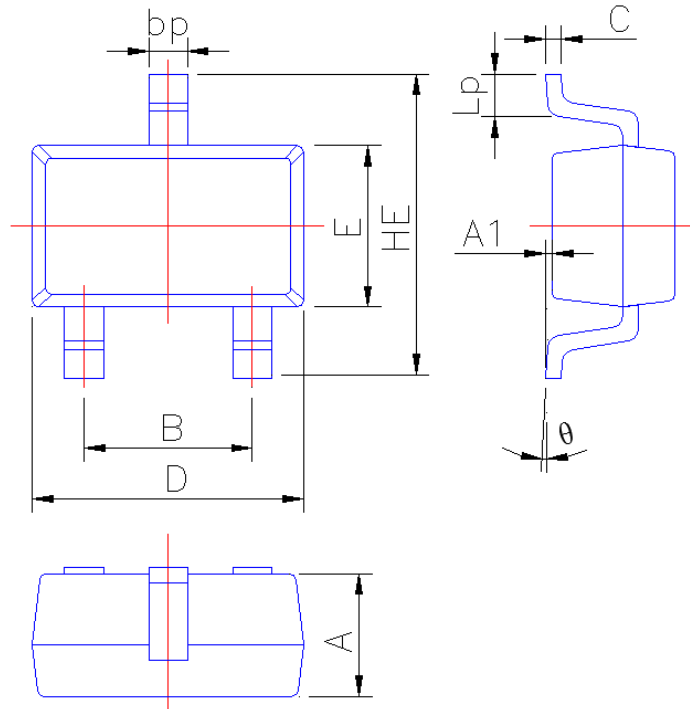


Fig.4 Output voltage vs. output current

SOT-323 Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.00
A1	0.010	0.100
B	1.20	1.40
bp	0.25	0.45
C	0.09	0.15
D	2.00	2.20
E	1.15	1.35
HE	2.15	2.55
Lp	0.25	0.46
θ	0°	6°