DTC114EUA

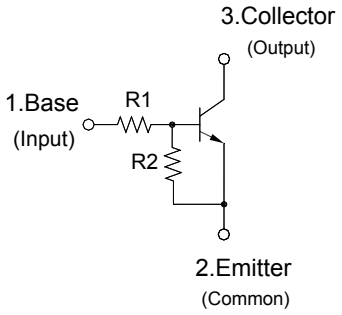
NPN Silicon Epitaxial Planar Digital Transistor

Features

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



SOT323



MARKING: 24

Absolute Maximum Ratings (T_a = 25℃)

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	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Characteristics at T_a = 25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 5 mA	h_{FE}	30	-	-	-
Collector Base Cutoff Current at V_{CB} = 50 V	I_{CBO}	-	-	500	nA
Emitter Base Cutoff Current at V_{EB} = 5 V	I_{EBO}	-	-	0.88	mA
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 0.5 mA	$V_{CE(sat)}$	-	-	0.3	V
Input on Voltage at V_{CE} = 0.3 V, I_C = 10 mA	$V_{I(on)}$	-	-	3	V
Input off Voltage at V_{CE} = 5 V, I_C = 100 μA	$V_{I(off)}$	0.5	-	-	V
Transition frequency at V_{CE} = 10 V, $-I_E$ = 5 mA, f = 100 MHz	f_T	-	250	-	MHz
Input Resistance	R_1	7	10	13	KΩ
Resistance Ratio	R_2 / R_1	0.8	1	1.2	-

NPN Silicon Epitaxial Planar Digital Transistor

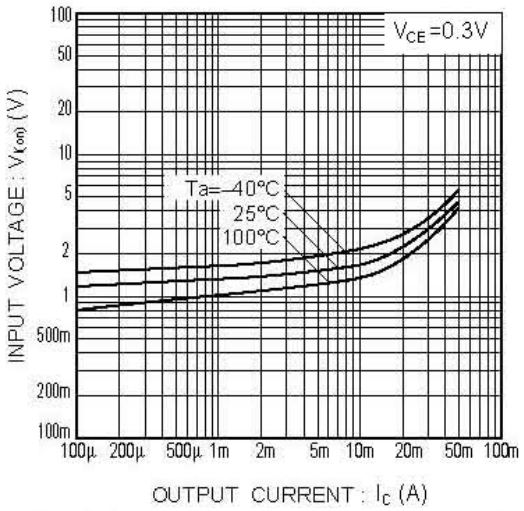


Fig.1 Input voltage vs. output current (ON characteristics)

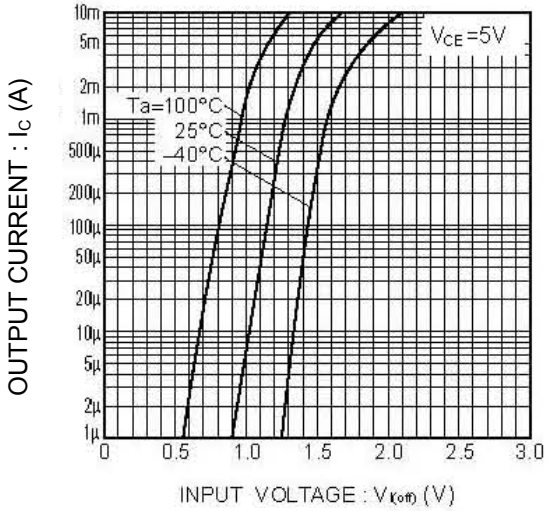


Fig.2 Output current vs. input voltage (OFF characteristics)

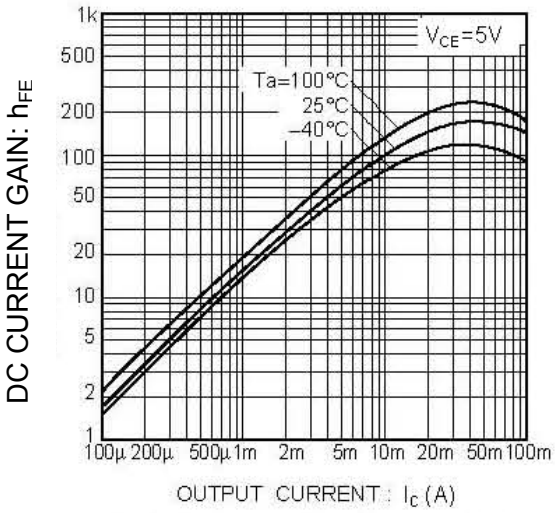


Fig.3 DC current gain vs. output current

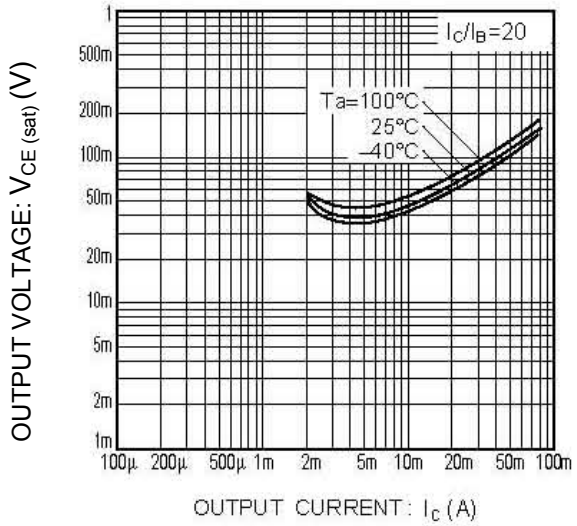
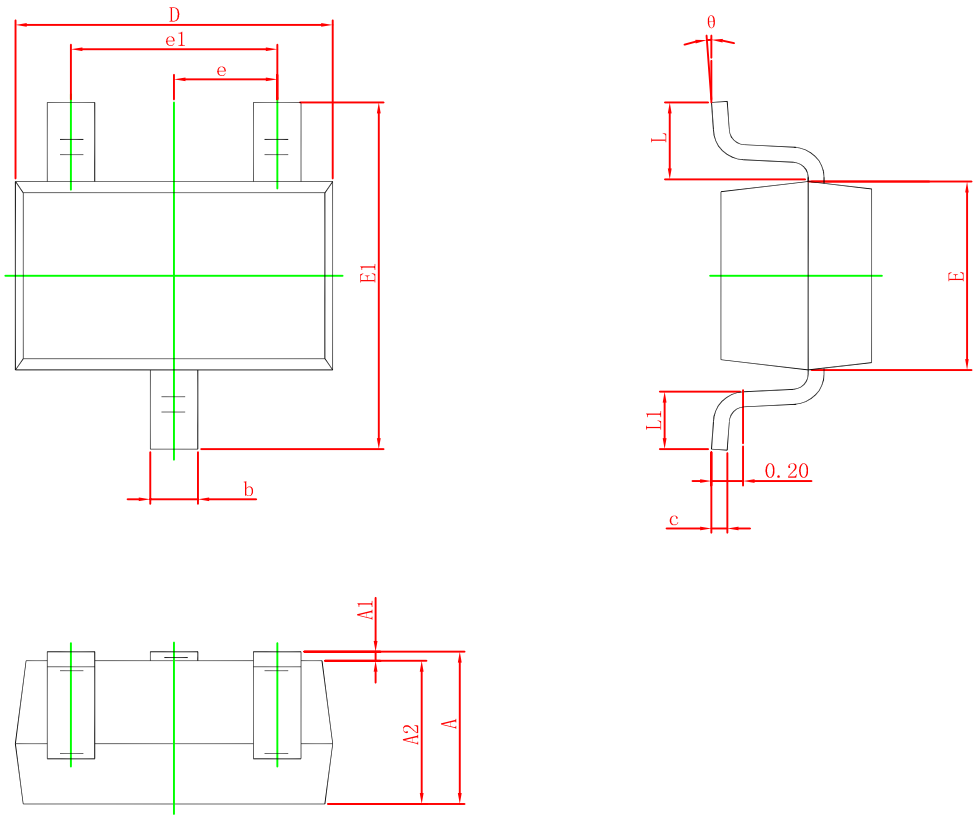


Fig.4 Output voltage vs. output current

NPN Silicon Epitaxial Planar Digital Transistor

SOT-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°