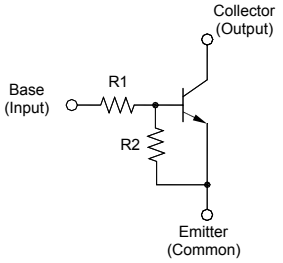
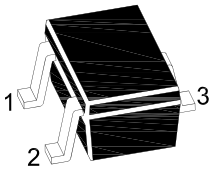
DTC143ZE

NPN Silicon Epitaxial Planar Digital Transistor

Features

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





1.Base 2.Emitter 3.Collector
SOT-523 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Emitter Voltage	V_{CEO}	50	V
Input Voltage	V_I	- 5 to + 30	V
Collector Current	I_C	100	mA
Power Dissipation	P_{tot}	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 10 mA	h_{FE}	80	-	-	-
Collector Base Cutoff Current at V_{CB} = 50 V	I_{CBO}	-	-	0.5	μA
Emitter Base Cutoff Current at V_{EB} = 5 V	I_{EBO}	-	-	1.8	mA
Collector Emitter Saturation Voltage at I_C = 5 mA, I_B = 0.25 mA	$V_{CE(sat)}$	-	-	0.3	V
Input on Voltage at V_{CE} = 0.3 V, I_C = 5 mA	$V_{I(on)}$	-	-	1.3	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	3.29	4.7	6.11	KΩ
Resistance Ratio	R_2 / R_1	8	10	12	-

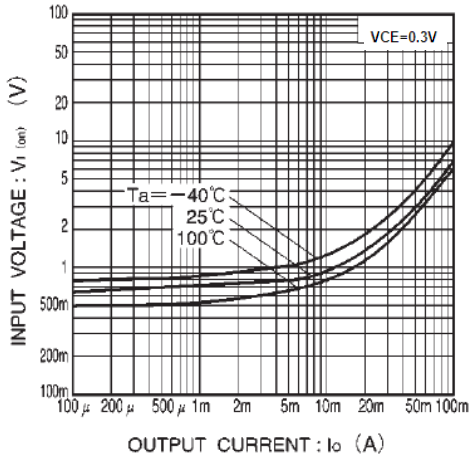


Fig.1 Input voltage vs. output current (ON characteristics)

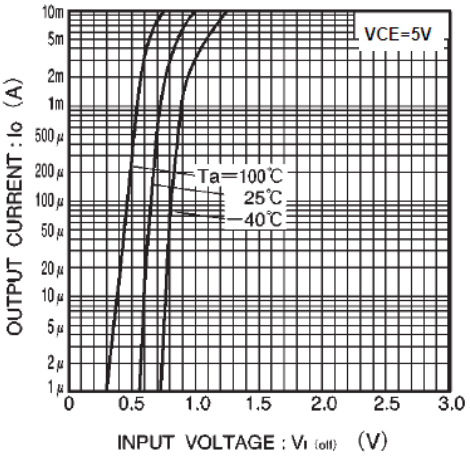


Fig.2 Output current vs. input voltage (OFF characteristics)

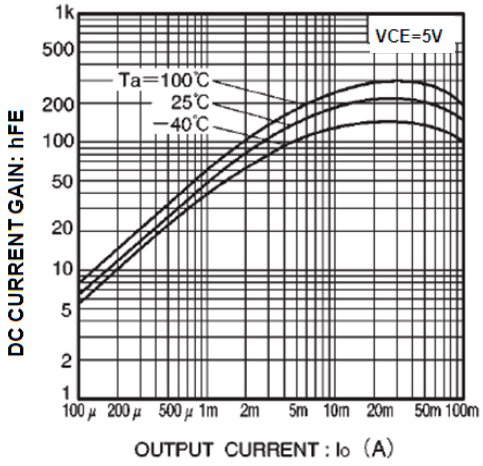


Fig.3 DC current gain vs. output current

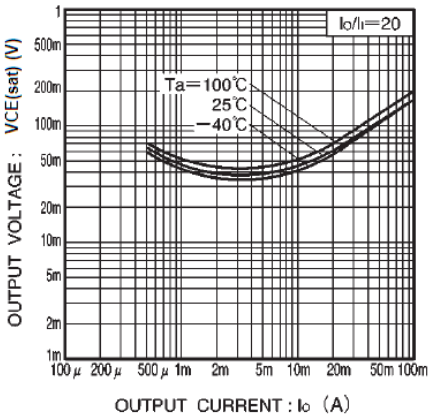


Fig.4 Output voltage vs. output current

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