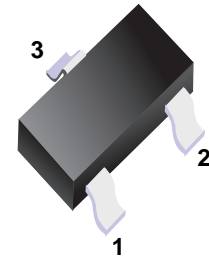
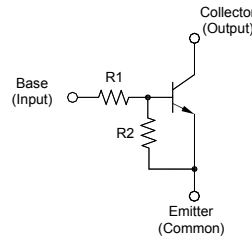


■ NPN Silicon Epitaxial Planar Digital Transistor
■ Features

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



- 1.Base
- 2.Emitter
- 3.Collector

■ Simplified outline(SOT-523)
■ 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	-

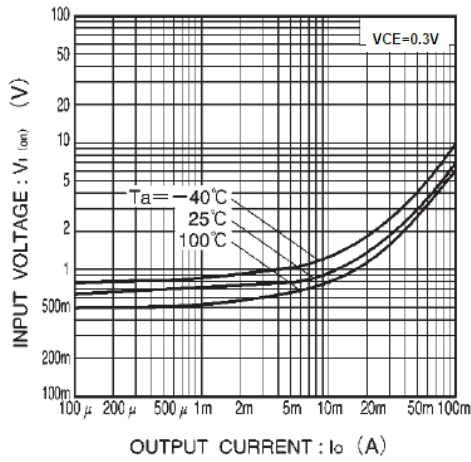


Fig.1 Input voltage vs. output current (ON characteristics)

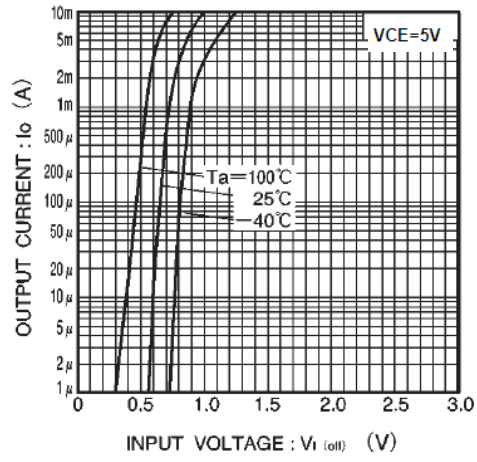


Fig.2 Output current vs. input voltage (OFF characteristics)

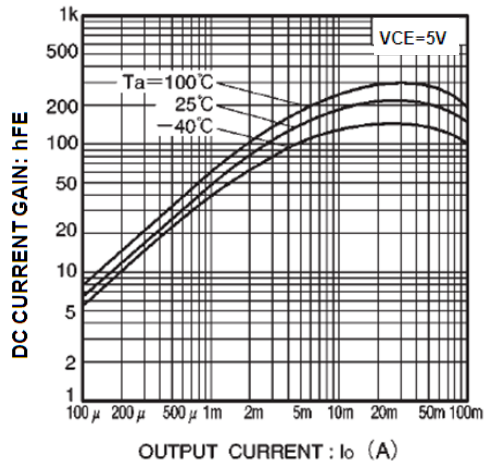


Fig.3 DC current gain vs. output current

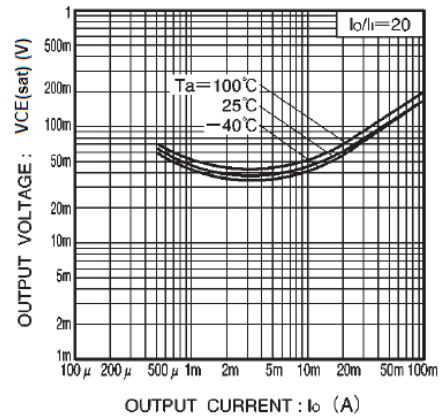
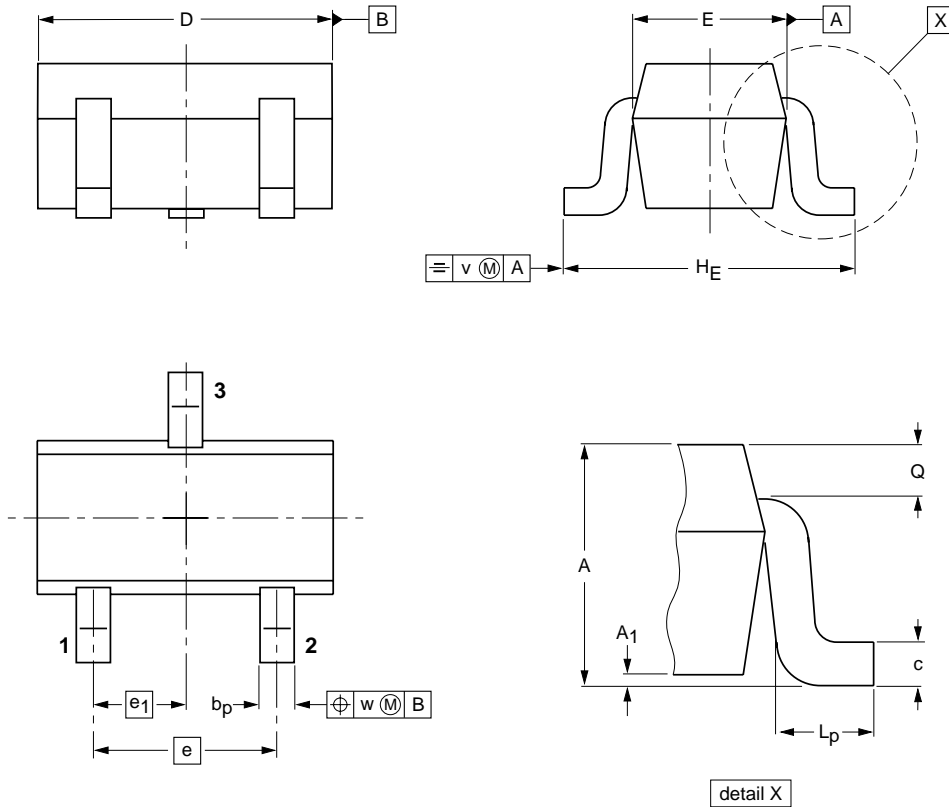


Fig.4 Output voltage vs. output current

Package Outline

SOT-523



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	0.95 0.60	0.1	0.30 0.15	0.25 0.10	1.8 1.4	0.9 0.7	1	0.5	1.75 1.45	0.45 0.15	0.23 0.13	0.2	0.2

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-523	Tape/Reel, 7" reel	3000	EIA-481-1

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