

Digital Transistor

DTA(R₁=R₂ SERIES)CA

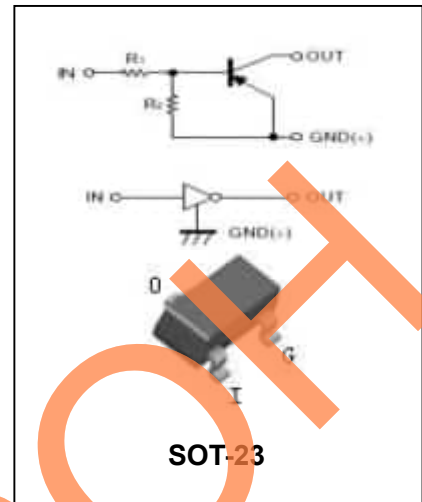
FEATURES

- Epitaxial planar die construction.
- Complementary NPN types available(DTC).
- Built-in biasing resistors, R₁=R₂.
- Also available in lead free version.

Product specification

APPLICATIONS

- The PNP style digital transistor.



ORDERING INFORMATION

Type No.	Marking	Package Code
DTA114ECA□	14	SOT-23
DTA124ECA□	15	SOT-23
DTA143ECA□	13	SOT-23
DTA144ECA□	16	SOT-23

□: none is for Lead Free package;

“G” is for Halogen Free package.

MAXIMUM RATING @ T_a=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CC}	Supply Voltage	-50	V
V _{IN}	Input Voltage	DTA114ECA DTA124ECA DTA143ECA DTA144ECA	V
I _O	Output Current	DTA114ECA DTA124ECA DTA143ECA DTA144ECA	mA
I _C (Max.)	Output current	ALL	mA
P _D	Power Dissipation	200	mW
R _{θJA}	Thermal Resistance, Junction to Ambient Air	625	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Operating and Storage and Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Input Voltage	V _{I(off)}	V _{CC} =-5V, I _O =-100μA	-0.5	-1.1	-	
Input Voltage	V _{I(on)}	V _O =-0.3V, I _O =-10mA V _O =-0.2V, I _O =-5mA V _O =-0.3V, I _O =-20mA V _O =-0.3V, I _O =-2mA	-	-1.9	-3	V
Output Voltage	V _{O(on)}	I _O /I _I =-10mA/-0.5mA,	-	-0.1	-0.3	V
Input Current	I _I	V _I =-5V	-	-	-0.88 -0.36 -1.8 -0.18	mA
Output Current	I _{O(off)}	V _{CC} =-50V, V _I =0V	-	-	-0.5	μA
DC Current Gain	G _I	V _O =-5V, I _O =-5mA V _O =-5V, I _O =-5mA V _O =-5V, I _O =-10mA V _O =-5V, I _O =-5mA	30 56 20 68	-	-	
Input Resistor	R ₁ (R ₂)		7 15.4 3.29 32.9	10 22 4.7 47	13 28.6 6.11 61.1	kΩ
Resistance Ratio	R ₂ /R ₁	-	0.8	1	1.2	
Gain-Bandwidth Product	f _T	V _{CE} =-10V, I _E =5mA, f=100MHz	-	250	-	MHz

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

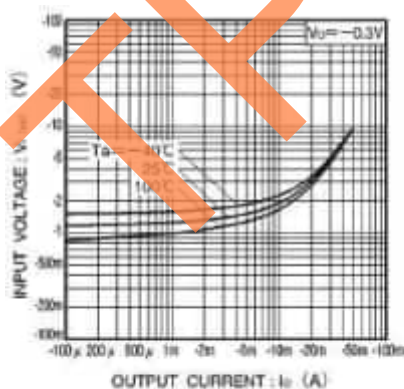


Fig.1 Input voltage vs. output current (ON characteristics)

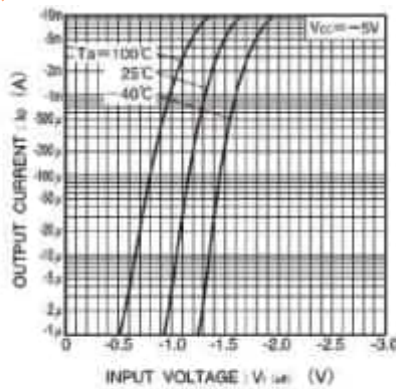


Fig.2 Output current vs. input voltage (OFF characteristics)

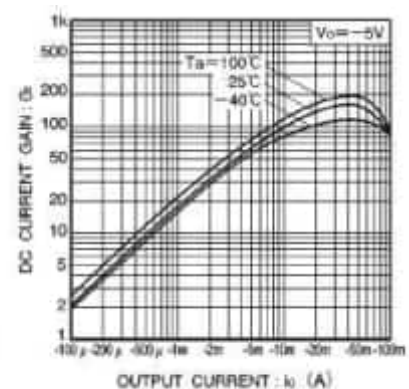


Fig.3 DC current gain vs. output current

Digital Transistor

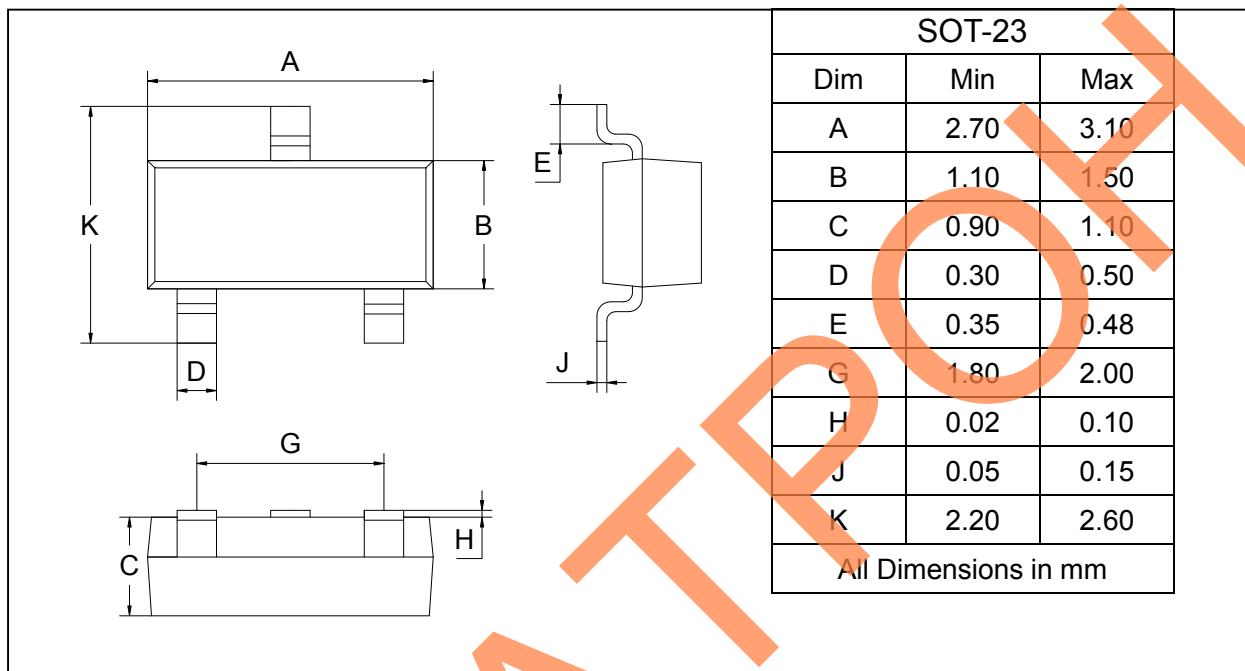
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PACKAGE OUTLINE

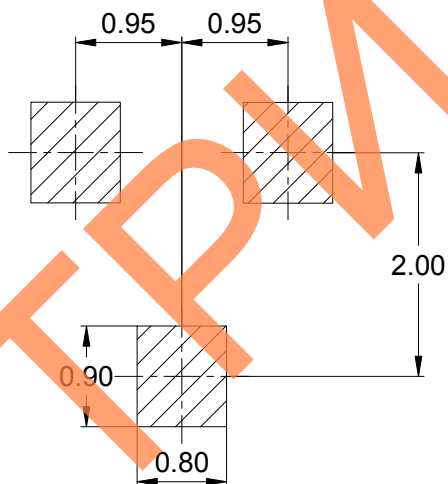
Product specification

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
DTA114ECA/124ECA/143ECA/144ECA	SOT-23	3000/Tape&Reel