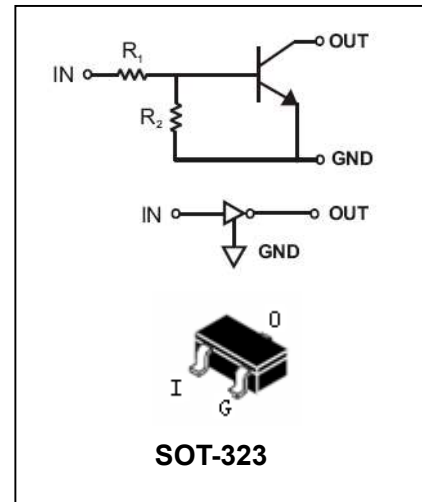


Digital Transistor

DTC(R₁=R₂ SERIES)UA

FEATURES

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



APPLICATIONS

- The NPN style digital transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
DTC114EUA	24	SOT-323
DTC143EUA	23	SOT-323
DTC124EUA	25	SOT-323
DTC144EUA	26	SOT-323

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units	
V _{CC}	Supply Voltage	50	V	
V _{IN}	Input Voltage	DTC114EUA DTC124EUA DTC143EUA DTC144EUA	-10 to+40 -10 to+40 -10 to+30 -10 to+40	V
I _O	Output Current	DTC114EUA DTC124EUA DTC143EUA DTC144EUA	50 30 100 30	mA
I _C (Max.)	Output current	ALL	100	mA
P _D	Power Dissipation		200	mW
T _j , T _{stg}	Operating and Storage and Temperature Range		-55 to +150	°C

Digital Transistor

DTC(R₁=R₂ SERIES)UA

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	-	V	
Input Voltage	DTC114EUA DTC124EUA DTC143EUA DTC144EUA	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		
Output Voltage	V _{O(on)}	I _O /I _I =10mA/0.5mA,	-	0.1	0.3		
Input Current	DTC114EUA DTC124EUA DTC143EUA DTC144EUA	I _I	V _I =5V	-	-		0.88 0.36 1.8 0.18
Output Current	I _{O(off)}	V _{CC} =50V, V _I =0V	-	-	0.5	μA	
DC Current Gain	DTC114EUA DTC124EUA DTC143EUA DTC144EUA	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	DTC114EUA DTC124EUA DTC143EUA DTC144EUA	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	

Digital Transistor

DTC(R₁=R₂ SERIES)UA

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

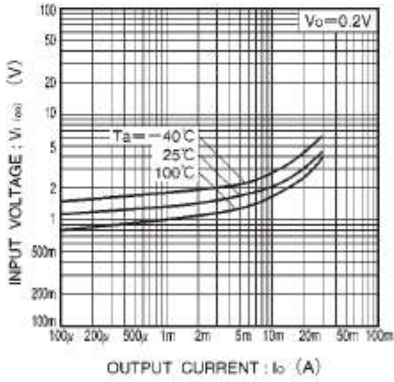


Fig.1 Input voltage vs. output current (ON characteristics)

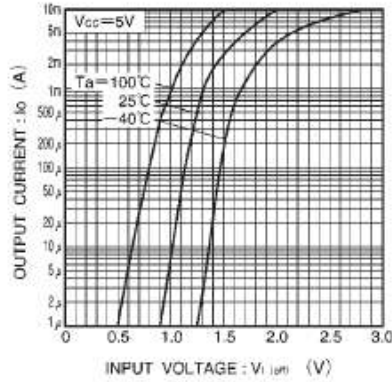


Fig.2 Output current vs. input voltage (OFF characteristics)

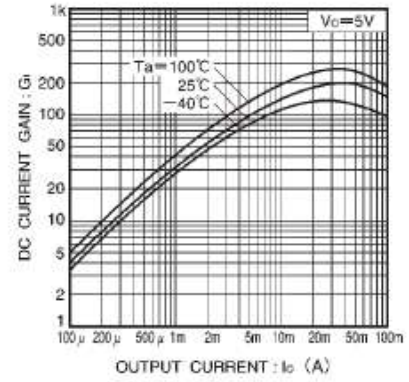


Fig.3 DC current gain vs. output current

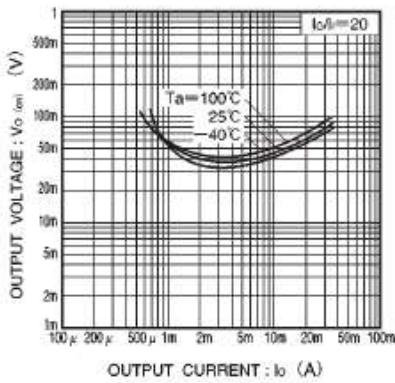


Fig.4 Output voltage vs. output current

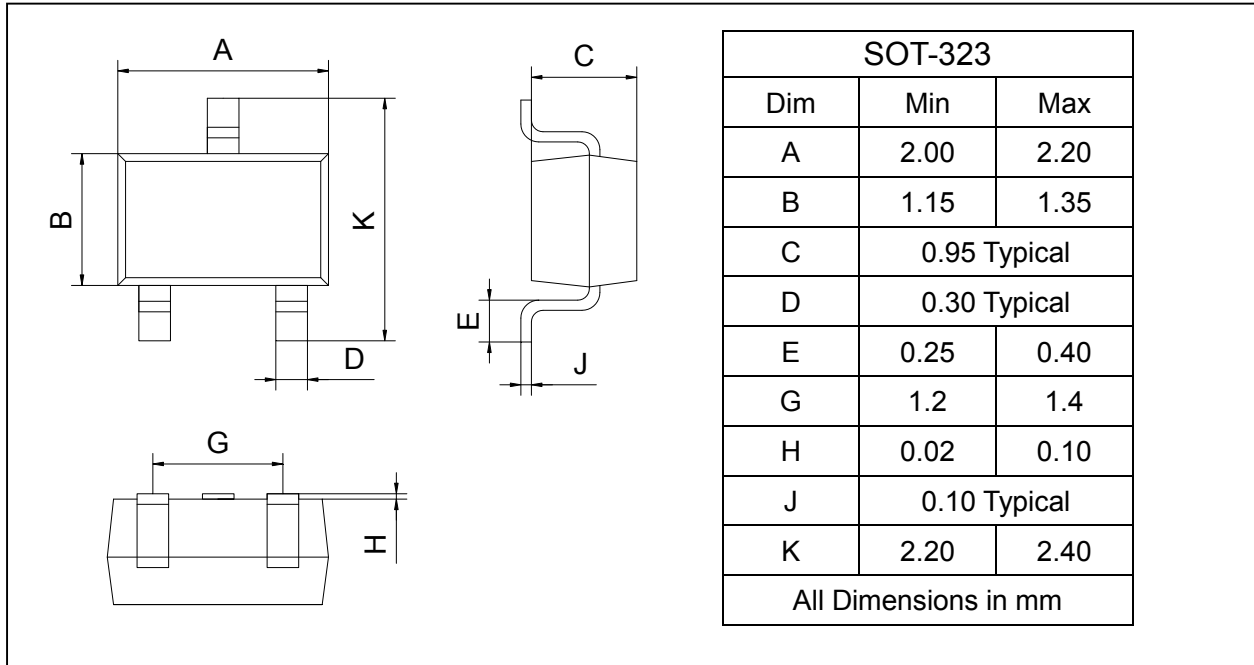
Digital Transistor

DTC(R₁=R₂ SERIES)UA

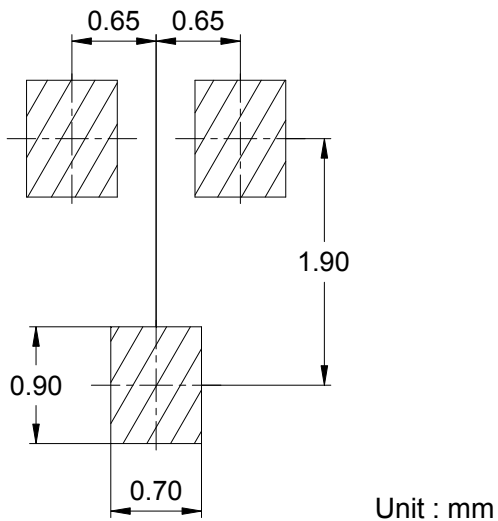
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
DTC114EUA/124EUA/143EUA/144EUA	SOT-323	3000/Tape&Reel