



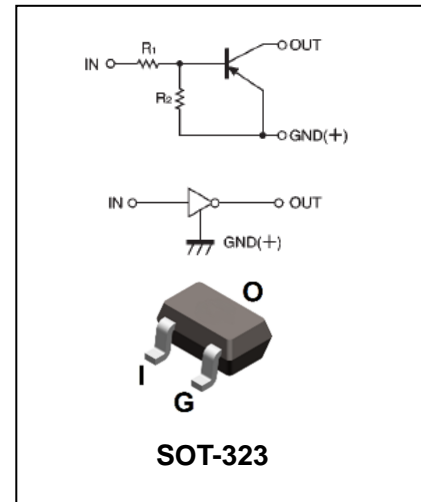
### FEATURES

- Epitaxial planar die construction
- Complementary NPN types available(DTA)
- Built-in biasing resistors, $R_1=R_2$
- Also available in lead free version

### APPLICATIONS

- The NPN style digital transistor

### ORDERING INFORMATION



Type No.	Marking	Package Code
DTA114EUA	14	SOT-323
DTA143EUA	13	SOT-323
DTA124EUA	15	SOT-323
DTA144EUA	16	SOT-323

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units	
$V_{CC}$	Supply Voltage	-50	V	
$V_{IN}$	Input Voltage	DTA114EUA DTA124EUA DTA143EUA DTA144EUA	-40 to+10 -40 to+10 -30 to+10 -40 to+10	V
$I_O$	Output Current	DTA114EUA DTA124EUA DTA143EUA DTA144EUA	-50 -30 -100 -30	mA
$I_C(\text{Max.})$	Output current	ALL	-100	mA
$P_D$	Power Dissipation		200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air		625	°C/W
$T_j, T_{stg}$	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	$V_{I(off)}$	$V_{CC}=-5V, I_o=-100\mu A$	-0.5	-1.1	-	
Input Voltage	DTA114EUA DTA124EUA DTA143EUA DTA144EUA $V_{I(on)}$	$V_o=-0.3V, I_o=-10mA$ $V_o=-0.2V, I_o=-5mA$ $V_o=-0.3V, I_o=-20mA$ $V_o=-0.3V, I_o=-2mA$	-	-1.9	-3	V
Output Voltage	DTA114EUA DTA124EUA DTA143EUA DTA144EUA $V_{O(on)}$	$I_o/I_i=-10mA/-0.5mA,$		-0.1	-0.3	V
Input Current	DTA114EUA DTA124EUA DTA143EUA DTA144EUA $I_i$	$V_i=-5V$			-0.88 -0.36 -1.8 -0.18	mA
Output Current	$I_{O(off)}$	$V_{CC}=-50V, V_i=0V$			-0.5	$\mu A$
DC Current Gain	DTA114EUA DTA124EUA DTA143EUA DTA144EUA $G_i$	$V_o=-5V, I_o=-5mA$ $V_o=-5V, I_o=-5mA$ $V_o=-5V, I_o=-10mA$ $V_o=-5V, I_o=-5mA$	30 56 20 68			
Input Resistor	DTA114EUA DTA124EUA DTA143EUA DTA144EUA $R_1(R_2)$		7 15.4 3.29 32.9	10 22 4.7 47	13 28.6 6.11 61.1	k $\Omega$
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

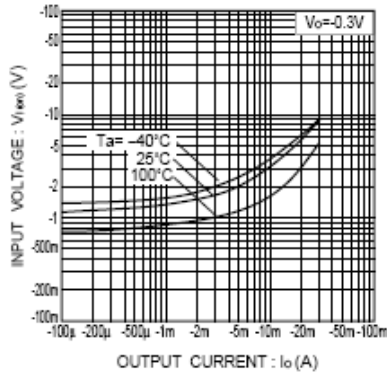


Fig.1 Input voltage vs. output current (ON characteristics)

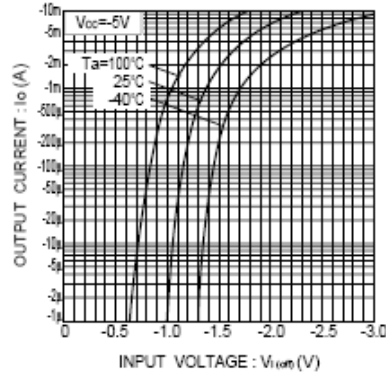


Fig.2 Output current vs. input voltage (OFF characteristics)

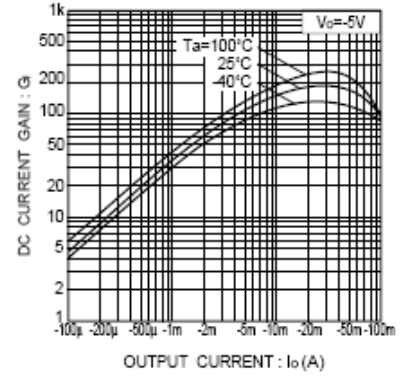


Fig.3 DC current gain vs. output current

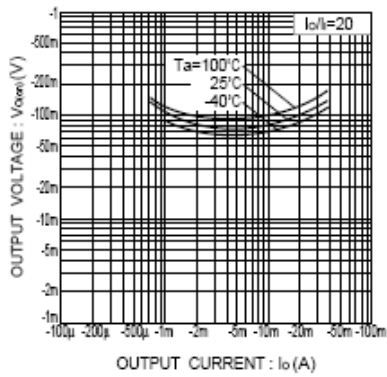


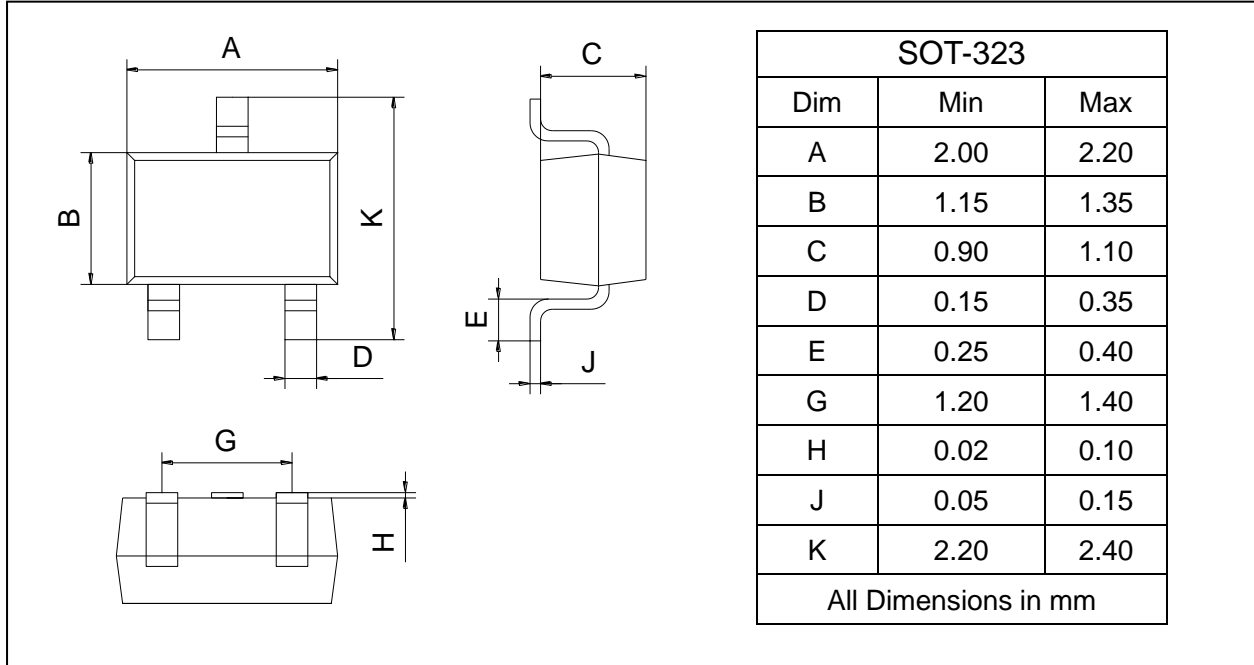
Fig.4 Output voltage vs. output current



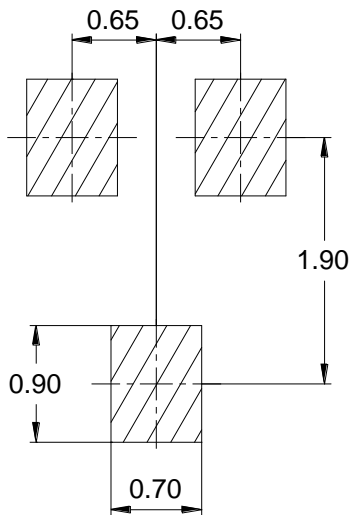
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



### SOLDERING FOOTPRINT



Unit : mm

### PACKAGE INFORMATION

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