



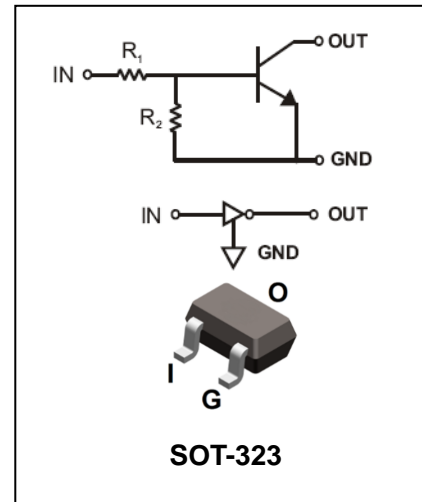
FEATURES

- Epitaxial planar die construction
- Complementary PNP 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
DTC114EUA	24	SOT-323
DTC143EUA	23	SOT-323
DTC124EUA	25	SOT-323
DTC144EUA	26	SOT-323
DTC115EUA	29	SOT-323

MAXIMUM RATING @ $T_a=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CC}	Supply Voltage	50	V
V_{IN}	Input Voltage	DTC114EUA	-10 to+40
		DTC124EUA	-10 to+40
		DTC143EUA	-10 to+30
		DTC144EUA	-10 to+40
		DTC115EUA	-10 to +40
I_o	Output Current	DTC114EUA	50
		DTC124EUA	30
		DTC143EUA	100
		DTC144EUA	30
		DTC115EUA	100
$I_{C(Max.)}$	Output current	ALL	100
P_D	Power Dissipation		200
T_j, T_{stg}	Operating and Storage and Temperature Range		-55 to +150



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	-	-	
Input Voltage	DTC114EUA DTC124EUA DTC143EUA DTC144EUA DTC115EUA	$V_{I(on)}$ $V_o=0.3V, I_o=10mA$ $V_o=0.2V, I_o=5mA$ $V_o=0.3V, I_o=20mA$ $V_o=0.3V, I_o=2mA$ $V_o=0.3V, I_o=1mA$	-	-	3	V
Output Voltage	DTC114EUA DTC124EUA DTC143EUA DTC144EUA DTC115EUA	$V_{O(on)}$ $I_o/I_i=10mA/0.5mA$ $I_o/I_i=10mA/0.5mA$ $I_o/I_i=10mA/0.5mA$ $I_o/I_i=10mA/0.5mA$ $I_o/I_i=5mA/0.25mA$	-	-	0.3	V
Input Current	DTC114EUA DTC124EUA DTC143EUA DTC144EUA DTC115EUA	I_i $V_i=5V$	-	-	0.88 0.36 1.8 0.18 0.15	mA
Output Current		$I_{O(off)}$ $V_{CC}=50V, V_i=0V$	-	-	0.5	μA
DC Current Gain	DTC114EUA DTC124EUA DTC143EUA DTC144EUA DTC115EUA	G_i $V_o=5V, I_o=5mA$ $V_o=5V, I_o=5mA$ $V_o=5V, I_o=10mA$ $V_o=5V, I_o=5mA$ $V_o=5V, I_o=5mA$	30 56 20 68 82	-	-	
Input Resistor	DTC114EUA DTC124EUA DTC143EUA DTC144EUA DTC115EUA	$R_1(R_2)$	7 15.4 3.29 32.9 70	10 22 4.7 47 100	13 28.6 6.11 61.1 130	k Ω
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

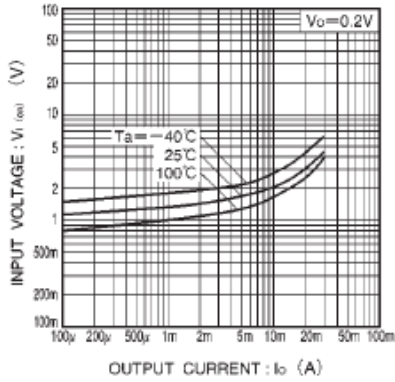


Fig.1 Input voltage vs. output current (ON characteristics)

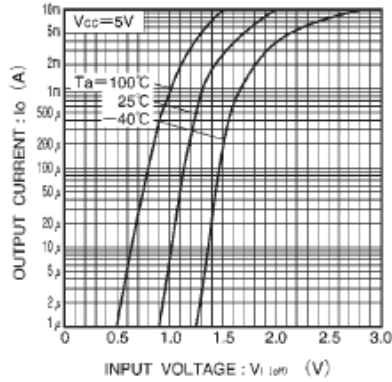


Fig.2 Output current vs. input voltage (OFF characteristics)

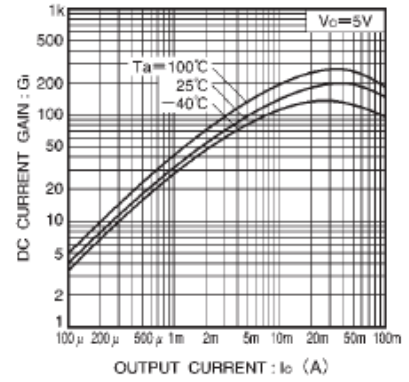


Fig.3 DC current gain vs. output current

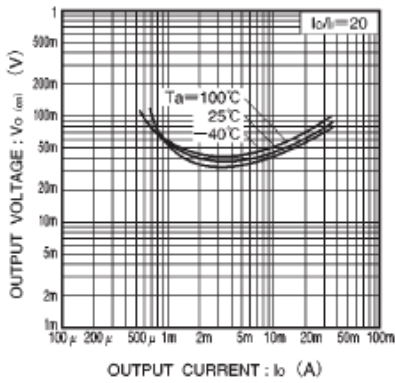


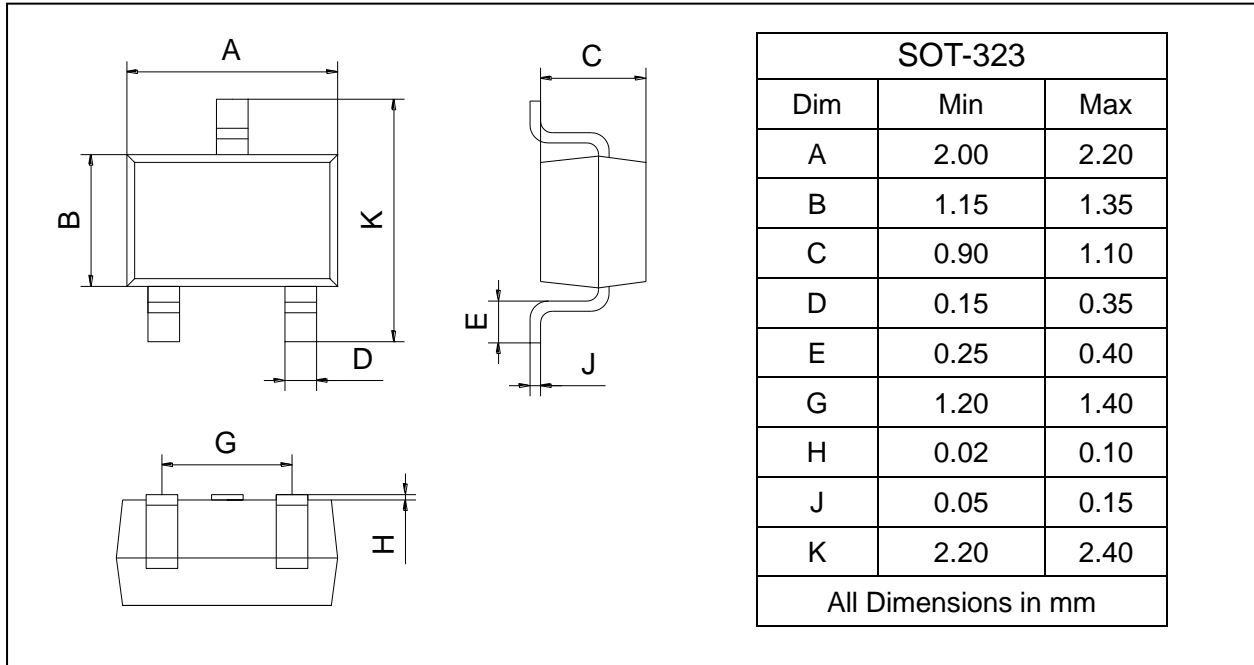
Fig.4 Output voltage vs. output current



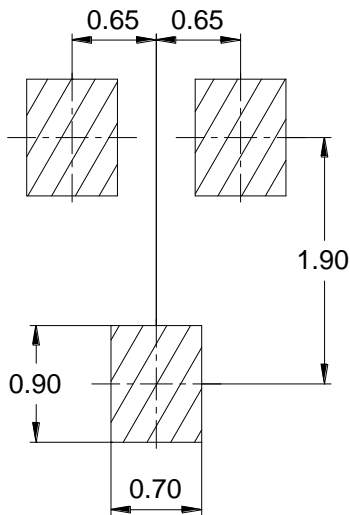
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
DTC114EUA/124EUA/143EUA/144EUA/115EUA	SOT-323	3000 pcs / Tape & Reel