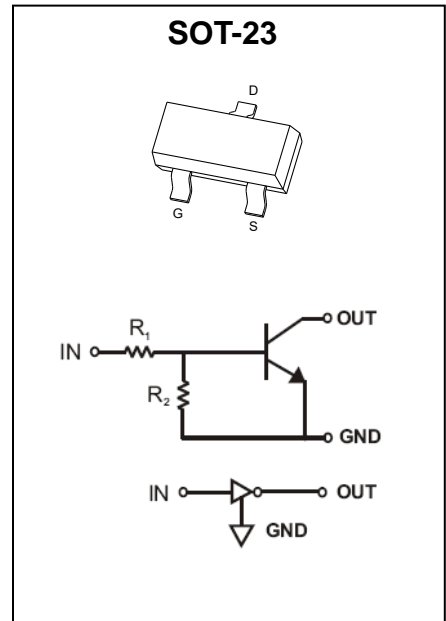


FEATURES

- 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.



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	DTC114ECA -10 to+40	V
I_O	Output Current	DTC114ECA 50	mA
$I_C(\text{Max.})$	Output current	100	mA
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air	625	$^{\circ}\text{C}/\text{W}$
T_j, T_{stg}	Operating and Storage and Temperature Range	-55 to +150	$^{\circ}\text{C}$

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	-	V
Input Voltage DTC114ECA	$V_{I(on)}$	$V_O=0.3V, I_O=10mA$	-	1.9	3	
Output Voltage	$V_{O(on)}$	$I_O/I_I=10mA/0.5mA,$	-	0.1	0.3	V
Input Current DTC114ECA	I_I	$V_I=5V$	-	-	0.88	mA
Output Current	$I_{O(off)}$	$V_{CC}=50V, V_I=0V$	-	-	0.5	μA
DC Current Gain DTC114ECA	G_I	$V_O=5V, I_O=5mA$	30	-	-	
Input Resistor DTC114ECA	$R_1(R_2)$		7	10	13	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

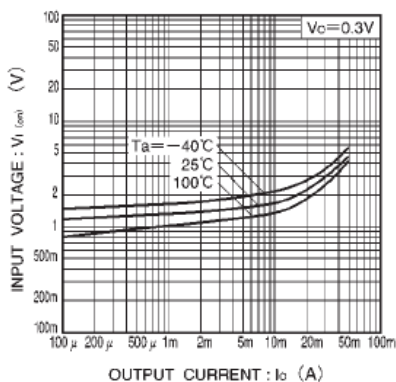


Fig.1 Input voltage vs. output current (ON characteristics)

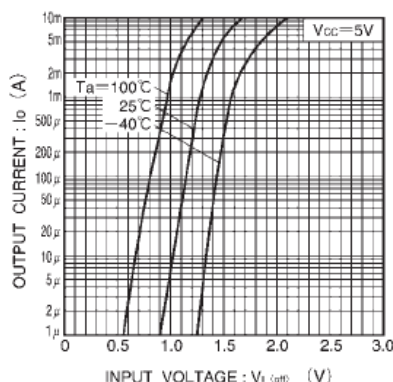


Fig.2 Output current vs. input voltage (OFF characteristics)

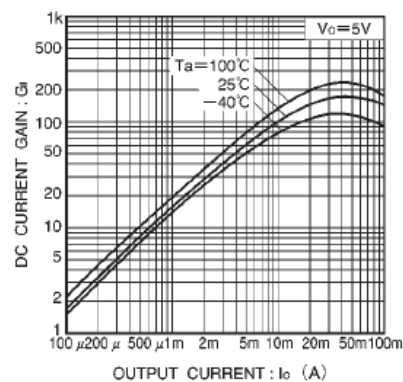
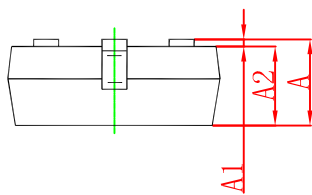
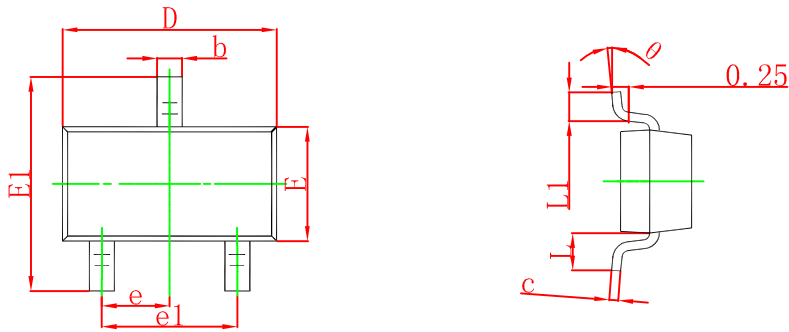
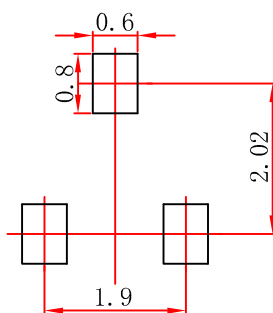


Fig.3 DC current gain vs. output current



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.