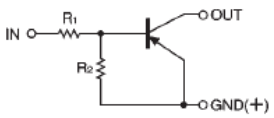
Digital Transistor

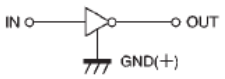
DTA(R_1=R_2 SERIES)UA

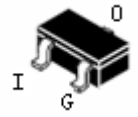
FEATURES

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

Lead-free







SOT-323

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℃ 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(Max.)	Output current	ALL	-100	mA
P_D	Power Dissipation		200	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient Air		625	℃/W
T_j,T_{stg}	Operating and Storage and Temperature Range		-55 to +150	℃

ELECTRICAL CHARACTERISTICS @ Ta=25℃ 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	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	
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	μA
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	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℃ unless otherwise specified

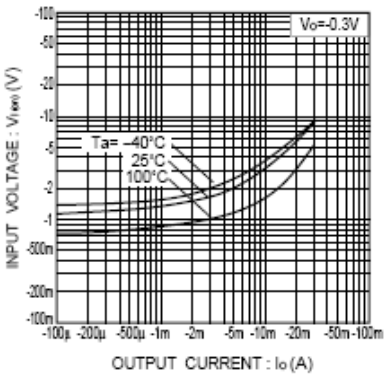


Fig.1 Input voltage vs. output current (ON characteristics)

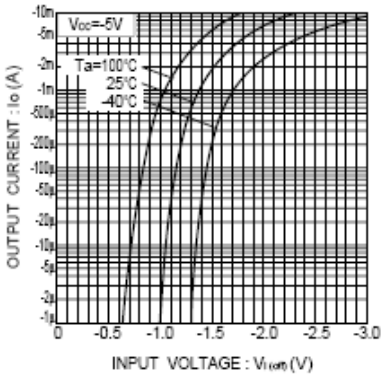


Fig.2 Output current vs. input voltage (OFF characteristics)

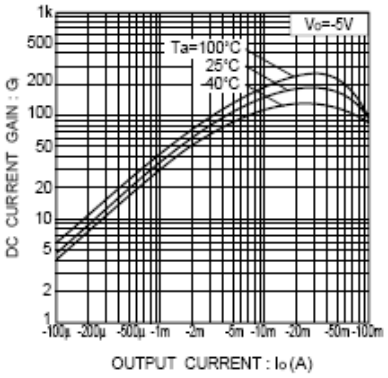


Fig.3 DC current gain vs. output current

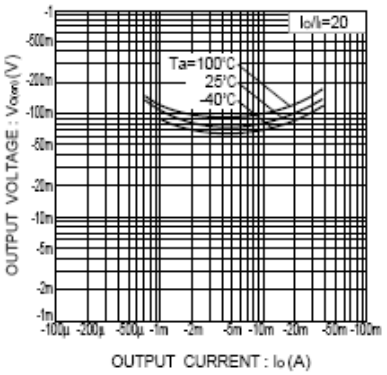
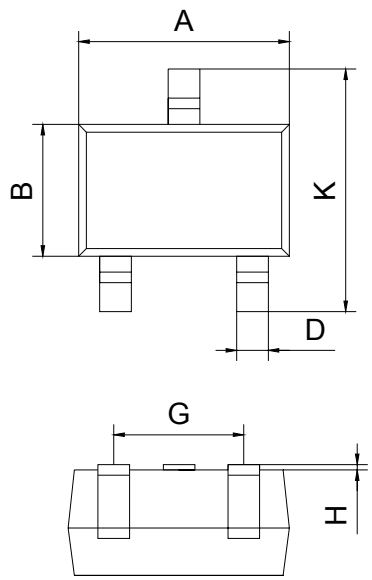


Fig.4 Output voltage vs. output current

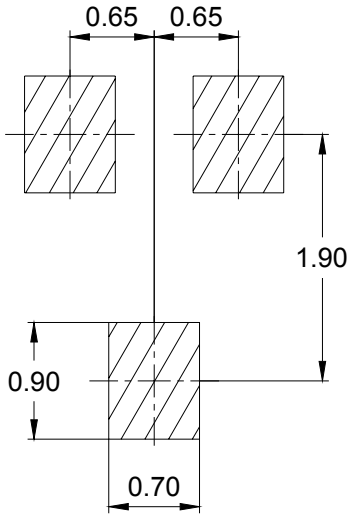
PACKAGE OUTLINE

Plastic surface mounted package SOT-323



SOT-323		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.95 Typical	
D	0.30 Typical	
E	0.25	0.40
G	1.2	1.4
H	0.02	0.10
J	0.10 Typical	
K	2.20	2.40
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

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