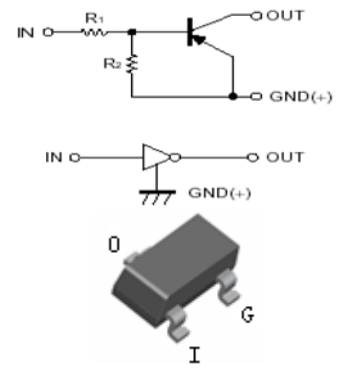
Digital Transistor

DTA(R_1=R_2 SERIES)CA

FEATURES

Lead-free

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



SOT-23

APPLICATIONS

- The PNP style digital transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
DTA114ECA	14	SOT-23
DTA124ECA	15	SOT-23
DTA143ECA	13	SOT-23
DTA144ECA	16	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter		Value	Units
V_{CC}	Supply Voltage		-50	V
V_{IN}	Input Voltage	DTA114ECA DTA124ECA DTA143ECA DTA144ECA	+10 to -40 +10 to -40 +10 to -30 +10 to -40	V
I_O	Output Current	DTA114ECA DTA124ECA DTA143ECA DTA144ECA	-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	Junction Temperature		150	℃
T_{stg}	Operating and Storage and Temperature Range		-55 to +150	℃

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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	DTA114ECA DTA124ECA DTA143ECA DTA144ECA	$V_{I(on)}$	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		$V_{O(on)}$	I_o/I_I=-10mA/-0.5mA,	-	-0.1	-0.3	V
Input Current	DTA114ECA DTA124ECA DTA143ECA DTA144ECA	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	DTA114ECA DTA124ECA DTA143ECA DTA144ECA	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	DTA114ECA DTA124ECA DTA143ECA DTA144ECA	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

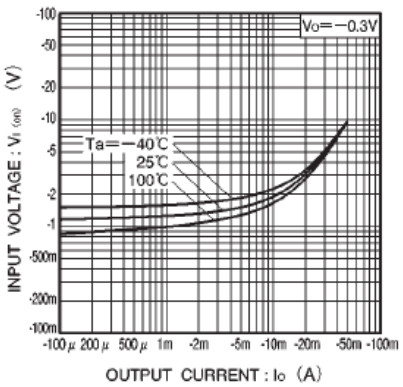

Fig.1 Input voltage vs. output current (ON characteristics)

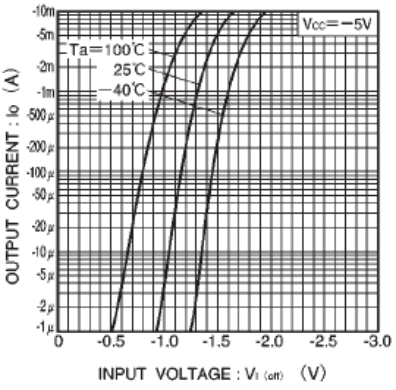

Fig.2 Output current vs. input voltage (OFF characteristics)

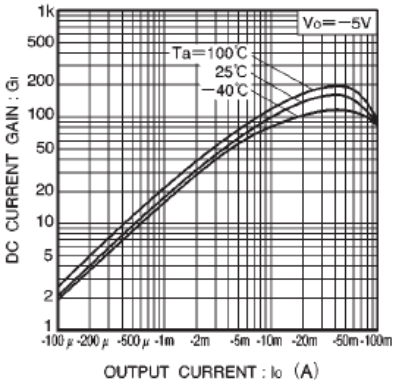

Fig.3 DC current gain vs. output current

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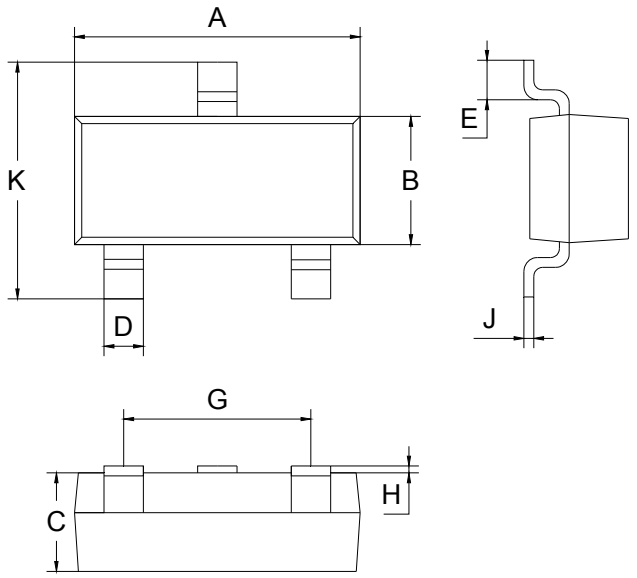
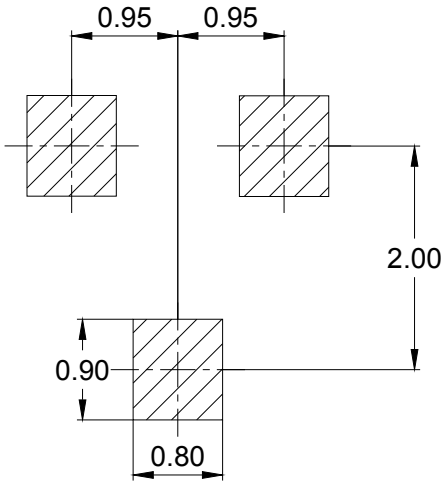
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
DTA114ECA/124ECA/143ECA/144ECA	SOT-23	3000/Tape&Reel