

TA114ECA-TA144ECA

Digital Transistor

Features

- Epitaxial planar die construction.
- Complementary NPN types available (DTC).
- Built-in biasing resistors, $R_1=R_2$.
- RoHS compliant package

Applications

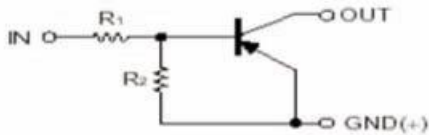
- Case: SOT-23 Molded plastic
- Epoxy: UL94V-O rate flame retardant

Packing & Order Information

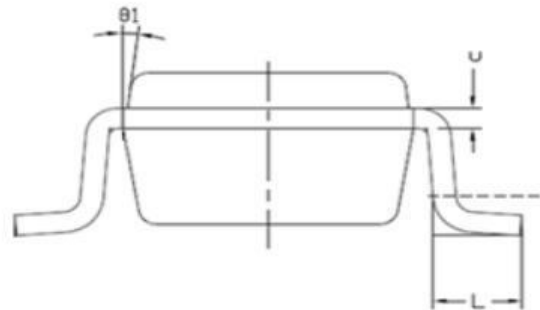
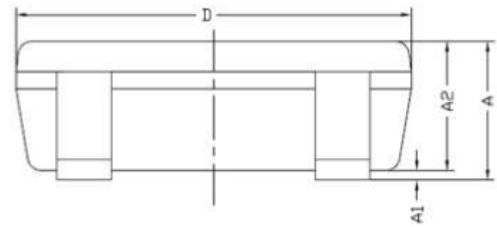
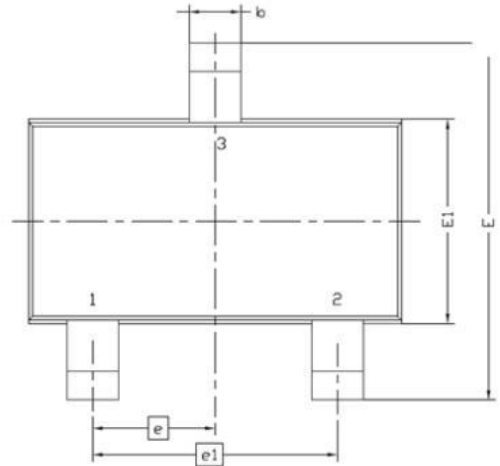
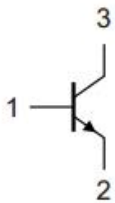
3,000/Reel



**RoHS
COMPLIANT**



Graphic symbol



Symbol	MILLIMETERS	
	MIN	MAX
A	0.8	1.2
A1	0	0.1
A2	0.7	1.1
b	0.3	0.5
c	0.1	0.2
D	2.7	3.1
E	2.6	3
E1	1.4	1.8
e	0.95 BSC	
e1	1.9 BSC	
L	0.3	0.6
theta1	7° NOM	

TA114ECA-TA144ECA

Digital Transistor

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum Ratings (Tc=25°C unless otherwise noted)

Symbol	Parameter		Value	Unit
VCC	Supply Voltage		-50	V
VIN	TA114ECA	TA114ECA	+10 to -40	V
	TA124ECA	TA124ECA	+10 to -40	
	TA143ECA	TA143ECA	+10 to -30	
	TA144ECA	TA144ECA	+10 to -40	
IO	TA114ECA	TA114ECA	-50	mA
	TA124ECA	TA124ECA	-30	
	TA143ECA	TA143ECA	-100	
	TA144ECA	TA144ECA	-30	
IC(Max.)	Output current ALL		-100	mA
PD	Power Dissipation		200	mW
RθJA	Thermal Resistance, Junction to Ambient Air		625	°C/W
Tj,Tstg	Operating and Storage and Temperature Range		-55 to +150	°C

Electrical characteristics (Tc=25°C unless otherwise noted)

Symbol	Parameter	Conditions	MIN	TYP	MAX	UNIT	
VI(off)	Input Voltage	IC=100μA,IE=0	-0.5	-1.1		V	
VI(on)	Input Voltage	TA114ECA	IC=1mA,IB=0		-1.9	-3.0	V
		TA124ECA	IE=100μA,IC=0		-1.9	-3.0	V
		TA143ECA	VCB=60V,IE=0		-1.9	-3.0	V
		TA144ECA	VEB=5V,IC=0		-1.9	-3.0	V
VO(on)	Output Voltage	Io/Ii=-10mA/-0.5mA		-0.1	-0.3	V	
II	Input Current	TA114ECA	VI=-5V			-0.88	mA
		TA124ECA				-0.36	mA
		TA143ECA				-1.8	mA
		TA144ECA				-0.18	mA
IO(off)	Output Current	VCC=-50V,VI=0V			-0.5	uA	
GI	DC Current Gain	TA114ECA	VO=-5V,IO=-5mA	30			
		TA124ECA	VO=-5V,IO=-5mA	56			
		TA143ECA	VO=-5V,IO=-10mA	20			
		TA144ECA	VO=-5V,IO=-5mA	68			

TA114ECA-TA144ECA

Digital Transistor

Electrical characteristics (Tc=25°C unless otherwise noted)

Symbol	Parameter	Conditions	MIN	TYP	MAX	UNIT
RI(R2)	Input Resistor	TA114ECA	7	10	13	kΩ
		TA124ECA	15.4	22	28.6	
		TA143ECA	3.29	4.7	6.11	
		TA144ECA	32.9	47	61.1	
R2/R1	Resistance Ratio		0.8	1.0	1.2	
fT	Gain-Bandwidth Product	VCE=-10V,IE=5mA,f=100MHz		250		MHz

DEVICE MARK

TA114ECA	14
TA124ECA	15
TA143ECA	13
TA144ECA	16

TA114ECA-TA144ECA

Digital Transistor

■ RATINGS AND CHARACTERISTIC CURVES

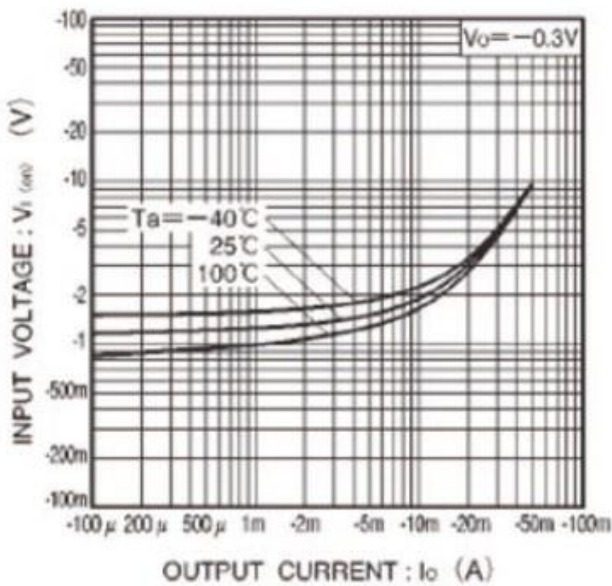


Fig.1 Input voltage vs. output current (ON characteristics)

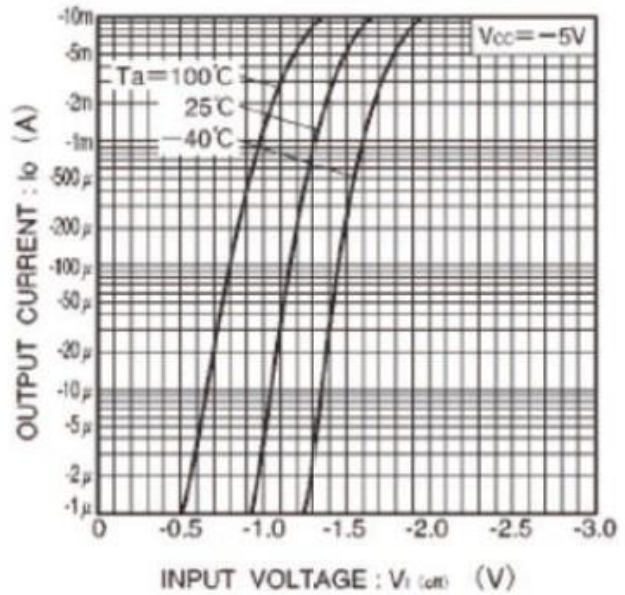


Fig.2 Output current vs. input voltage (OFF characteristics)

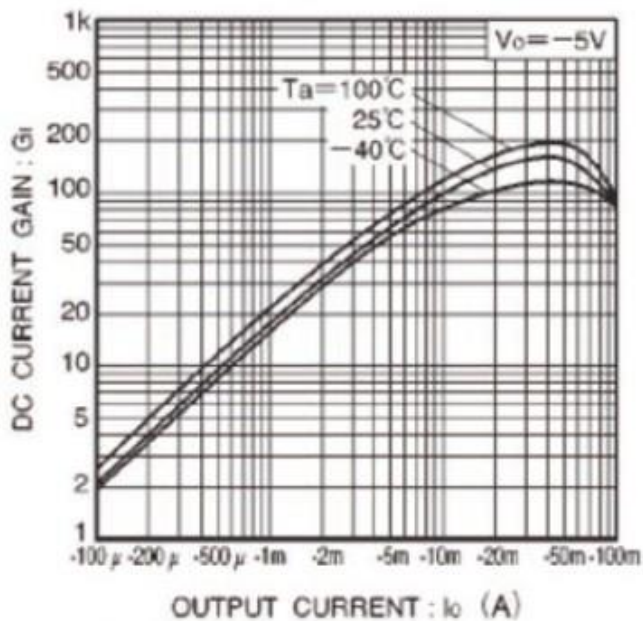


Fig.3 DC current gain vs. output current

TA114ECA-TA144ECA

Digital Transistor

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Bruckewell Technology Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Bruckewell"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product. Bruckewell makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Bruckewell disclaims

- (i) Any and all liability arising out of the application or use of any product.
- (ii) Any and all liability, including without limitation special, consequential or incidental damages.
- (iii) Any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Bruckewell's knowledge of typical requirements that are often placed on Bruckewell products in generic applications.

Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time.

Product specifications do not expand or otherwise modify Bruckewell's terms and conditions of purchase, including but not limited to the warranty expressed therein.