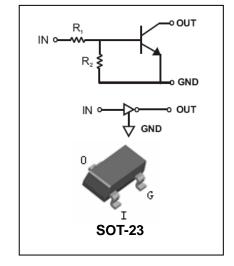
BL Galaxy Electrical

Digital Transistor

DTC(R₁=R₂ SERIES)CA

FEATURES

- Epitaxial planar die construction.
- Complementary PNP types available(DTA).
- Built-in biasing resistors,R₁=R₂
- Also available in lead free version.



APPLICATIONS

The NPN style digital transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
DTC114ECA	24	SOT-23
DTC143ECA	23	SOT-23
DTC124ECA	25	SOT-23
DTC144ECA	26	SOT-23

Lead-free

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter		Value	Units
V _{CC}	Supply Voltage		50	V
	Input Voltage	DTC114ECA	-10 to+40	
V _{IN}		DTC124ECA	-10 to+40	V
		DTC143ECA	-10 to+30	V
		DTC144ECA	-10 to+40	
Io	Output Current	DTC114ECA	50	
		DTC124ECA	30	m 1
		DTC143ECA	100	mA
		DTC144ECA	100	
I _C (Max.)	Output current	ALL	100	mA
P _D	Power Dissipation		200	mW
R _{θJA}	Thermal Resistance, Junction to Ambient Air		625	°C/W
T_{j},T_{stg}	Operating and Storage and Temperature Range		-55 to +150	$^{\circ}$

Document number: BL/SSDTC130

Rev.A



Digital Transistor

DTC(R₁=R₂ SERIES)CA

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 =100μA	0.5	1.1	-	
Input Voltage	DTC143ECA		V _O =0.3V,I _O =20mA				
	DTC114ECA	\/	V _O =0.3V,I _O =10mA	_	1.9	3	V
	DTC144ECA	$V_{I(on)}$	$V_0 = 0.3 V, I_0 = 2 mA$	-	1.9	3	
	DTC124ECA		V_{O} =0.3V, I_{O} =5mA				
Output Voltage	DTC143ECA						
	DTC114ECA	V- ·	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	_	0.1	0.3	V
	DTC144ECA	V O(on)	$V_{O(on)}$ $I_o/I_I=10$ mA/0.5mA,		0.1	0.5	V
	DTC124ECA						
Input Current	DTC143ECA					1.8	
	DTC114ECA	1.	1	_		0.88	mA
	DTC144ECA	"	I_1 $V_1=5V$		-	0.18	111/5
	DTC124ECA					0.36	
Output Current		I _{O(off)}	V _{CC} =50V,V _I =0V	-	-	0.5	μΑ
DC Current Gain	DTC143ECA		$V_O=5V,I_O=10mA$	20			
	DTC114ECA	Gı	$V_O=5V,I_O=5mA$	20			
	DTC144ECA	Gı	$V_O=5V,I_O=5mA$	68	-	_	
	DTC124ECA		$V_O=5V,I_O=5mA$	56			
Input Resistor	DTC143ECA				4.7		
	DTC114ECA	R ₁ (R ₂)			10		kΩ
	DTC144ECA	131(132)			47		K\$2
	DTC124ECA				22		
Input Resistor (R ₁) Tolerance	ΔR_1	-	-30		+30	%
Resistance Ratio		R ₂ /R ₁	-	8.0	1	1.2	
Gain-Bandwidth F	Product	f _T	V _{CE} =10V,I _E =5mA, f=100MHz	-	250	-	MHz

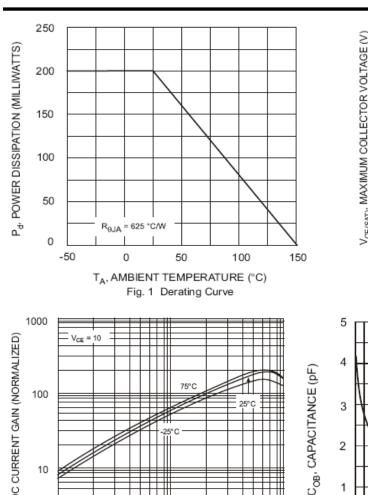
TYPICAL CHARACTERISTICS @ Ta=25 °C unless otherwise specified

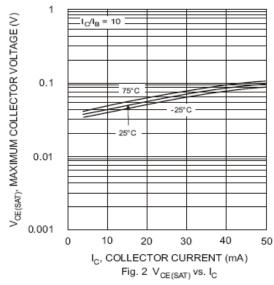
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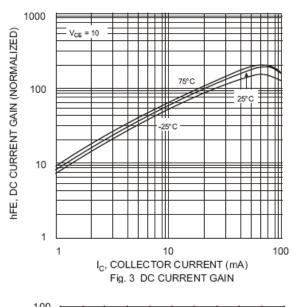
Rev.A

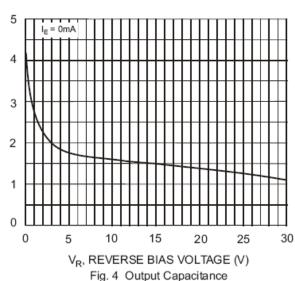
Digital Transistor

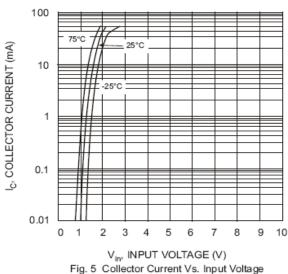
DTC(R₁=R₂ SERIES)CA

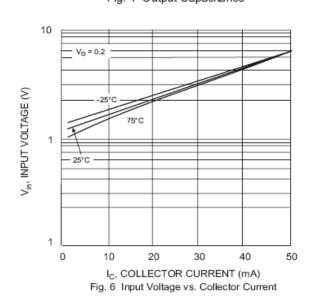












BL Galaxy Electrical

Digital Transistor

DTC(R₁=R₂ SERIES)CA

PACKAGE OUTLINE

Plastic surface mounted package

SOT-23

Max

2.95

1.35

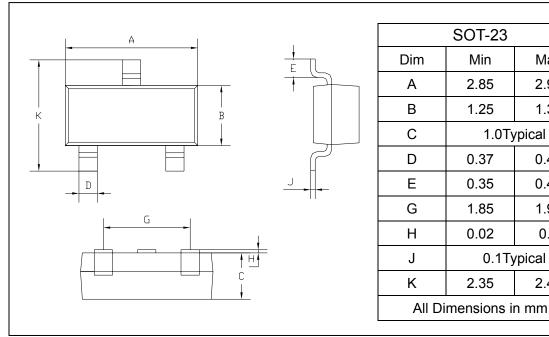
0.43

0.48

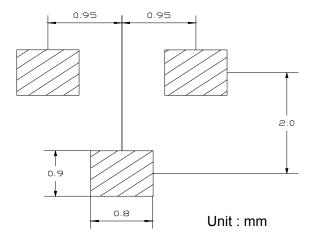
1.95

0.1

2.45



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
DTC114ECA/124ECA/143ECA/144ECA	SOT-23	3000/Tape&Reel