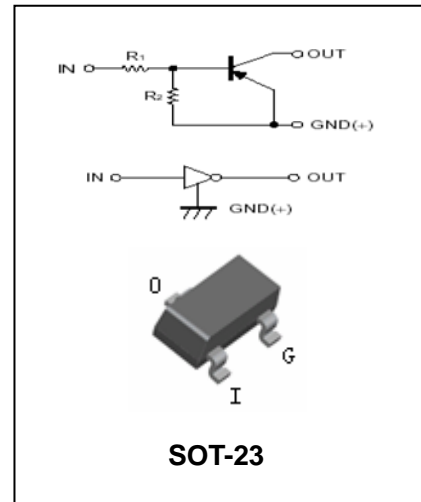


Digital Transistor

DTA(R₁=R₂ SERIES)CA

FEATURES

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



APPLICATIONS

- The PNP style digital transistor.

ORDERING INFORMATION

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

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CC}	Supply Voltage	-50	V
V _{IN}	Input Voltage	DTA114ECA +10 to -40 DTA124ECA +10 to -40 DTA143ECA +10 to -30 DTA144ECA +10 to -40	V
I _O	Output Current	DTA114ECA -50 DTA124ECA -30 DTA143ECA -100 DTA144ECA -30	mA
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	°C

Digital Transistor

DTA(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	-	V	
Input Voltage	DTA143ECA DTA114ECA DTA144ECA DTA124ECA	V _O =-0.3V, I _O =-20mA V _O =-0.3V, I _O =-10mA V _O =-0.3V, I _O =-2mA V _O =-0.3V, I _O =-5mA	-	-1.9	-3		
Output Voltage	DTA143ECA DTA114ECA DTA144ECA DTA124ECA	I _O /I _I =-10mA/-0.5mA,	-	-0.1	-0.3		V
Input Current	DTA143ECA DTA114ECA DTA144ECA DTA124ECA	V _I =-5V	-	-	-1.8 -0.88 -0.18 -0.36		mA
Output Current	I _{O(off)}	V _{CC} =-50V, V _I =0V	-	-	-0.5	μA	
DC Current Gain	DTA143ECA DTA114ECA DTA144ECA DTA124ECA	V _O =-5V, I _O =-10mA V _O =-5V, I _O =-5mA V _O =-5V, I _O =-5mA V _O =-5V, I _O =-5mA	20 20 68 56	-	-		
Input Resistor	DTA143ECA DTA114ECA DTA144ECA DTA124ECA	R ₁ (R ₂)		4.7 10 47 22		kΩ	
Input Resistor (R ₁) Tolerance	ΔR ₁	-	-30		+30	%	
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

Digital Transistor

DTA(R₁=R₂ SERIES)CA

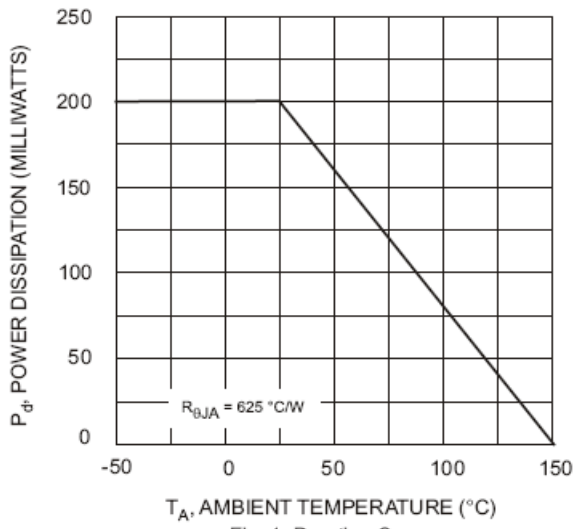


Fig. 1 Derating Curve

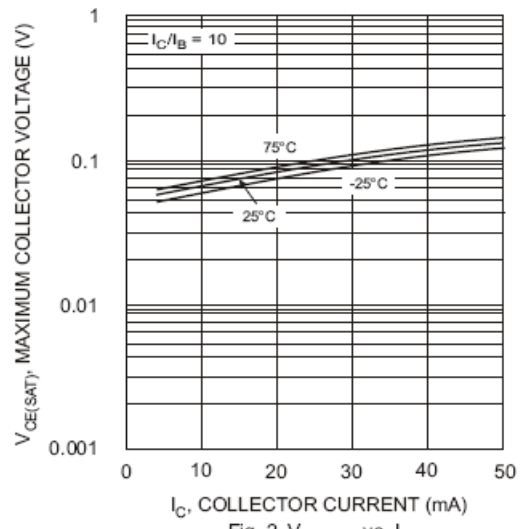


Fig. 2 V_{CE(SAT)} vs. I_C

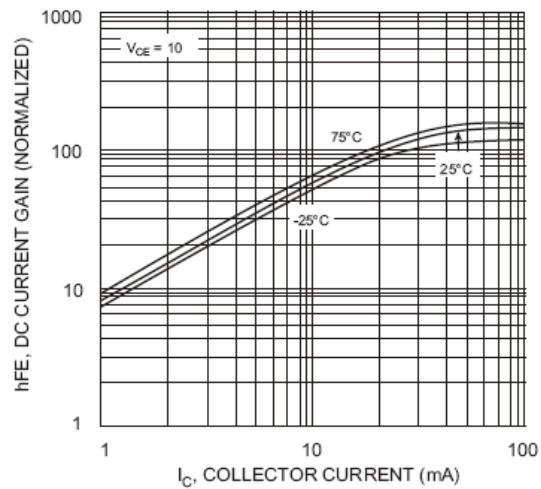


Fig. 3 DC CURRENT GAIN

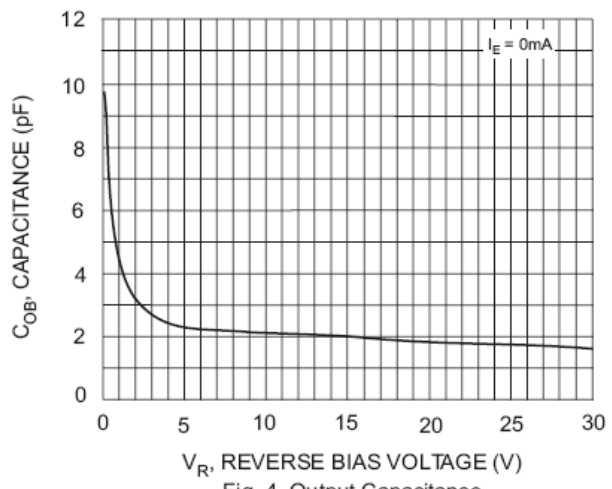


Fig. 4 Output Capacitance

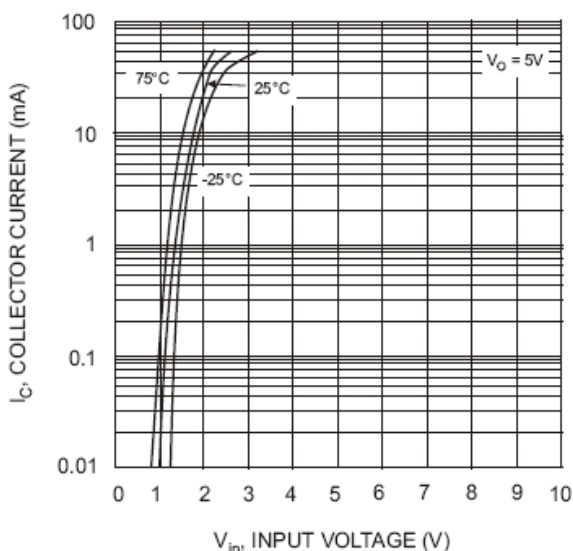


Fig. 5 Collector Current Vs. Input Voltage

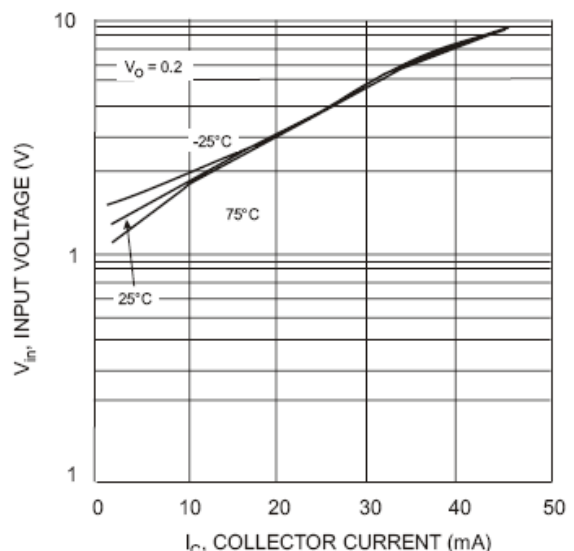


Fig. 6 Input Voltage vs. Collector Current

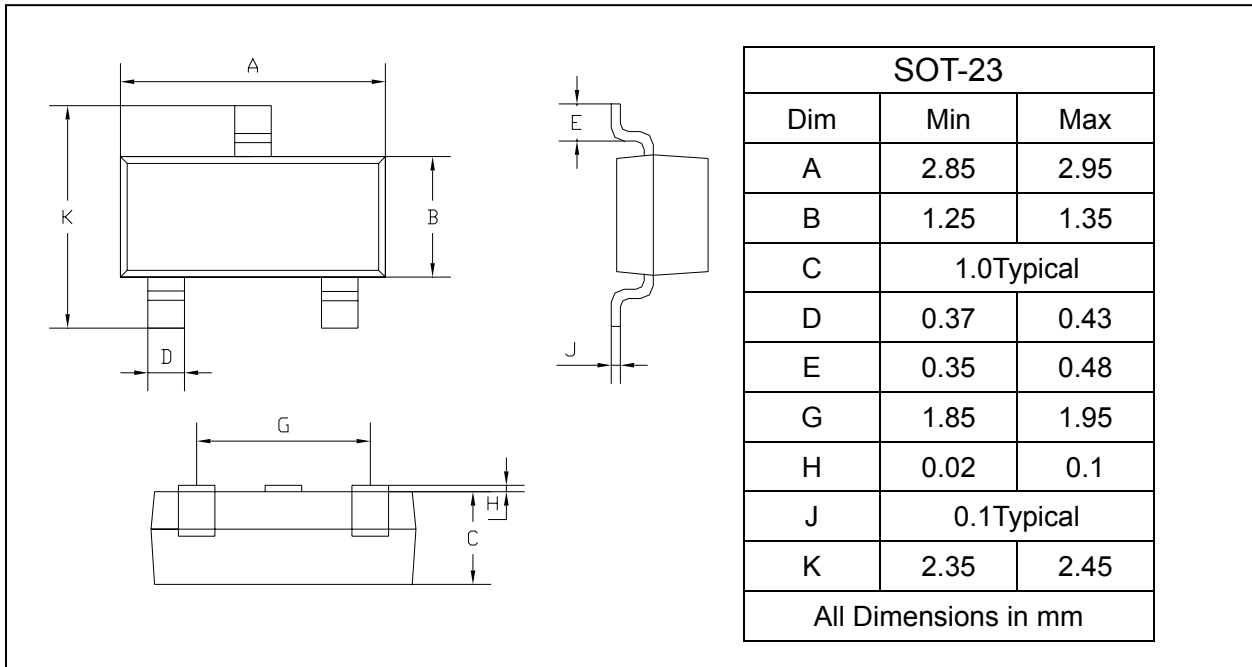
Digital Transistor

DTA(R₁=R₂ SERIES)CA

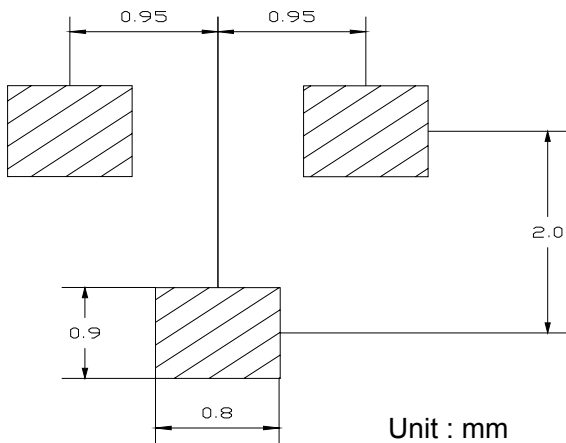
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

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