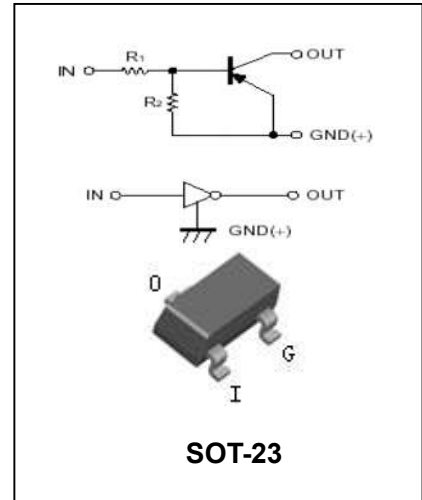


Digital Transistor

TDTA(R₁=R₂ SERIES)CAG

FEATURES

- Epitaxial planar die construction.
- Complementary NPN types available(DTC).
- Built-in biasing resistors,R₁=R₂.
- Also available in lead free version.
- Non-Halogen.
- Qualified to AEC-Q101 Standards for High Reliability.



APPLICATIONS

- The PNP style digital transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
TDTA114ECAG	14	SOT-23
TDTA124ECAG	15	SOT-23
TDTA143ECAG	13	SOT-23
TDTA144ECAG	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	TDTA114ECAG +10 to -40 TDTA124ECAG +10 to -40 TDTA143ECAG +10 to -30 TDTA144ECAG +10 to -40	V
I _O	Output Current	TDTA114ECAG -50 TDTA124ECAG -30 TDTA143ECAG -100 TDTA144ECAG -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	Junction Temperature	150	°C
T _{stg}	Operating and Storage and Temperature Range	-55 to +150	°C

Digital Transistor

TDTA(R₁=R₂ SERIES)CAG

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	V _{I(on)}	TDTA114ECAG V _O =-0.3V, I _O =-10mA	-	-1.9	-3		
Input Voltage		TDTA124ECAG V _O =-0.2V, I _O =-5mA					
Input Voltage		TDTA143ECAG V _O =-0.3V, I _O =-20mA					
Input Voltage		TDTA144ECAG V _O =-0.3V, I _O =-2mA					
Output Voltage	V _{O(on)}	I _O /I _I =-10mA/-0.5mA,	-	-0.1	-0.3	V	
Input Current	I _I	V _I =-5V	-	-	-0.88	mA	
Input Current					TDTA124ECAG		-0.36
Input Current					TDTA143ECAG		-1.8
Input Current					TDTA144ECAG		-0.18
Output Current	I _{O(off)}	V _{CC} =-50V, V _I =0V	-	-	-0.5	μA	
DC Current Gain	G _I	V _O =-5V, I _O =-5mA	-	-	30		
					TDTA124ECAG		56
					TDTA143ECAG		20
					TDTA144ECAG		68
Input Resistor	R ₁ (R ₂)				7	kΩ	
					TDTA124ECAG		15.4
					TDTA143ECAG		3.29
					TDTA144ECAG		32.9
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

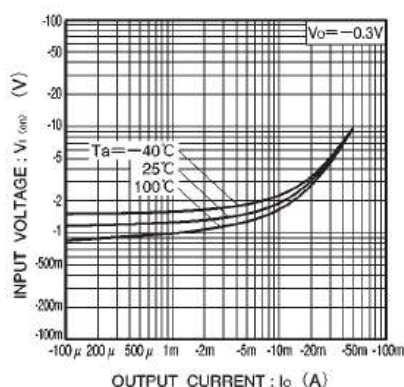


Fig.1 Input voltage vs. output current (ON characteristics)

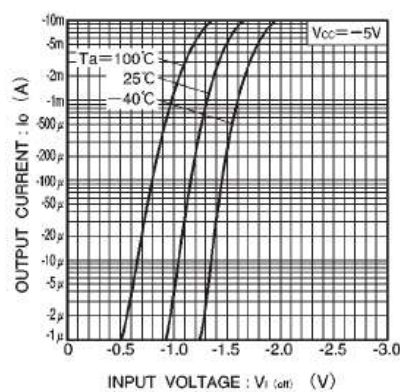


Fig.2 Output current vs. input voltage (OFF characteristics)

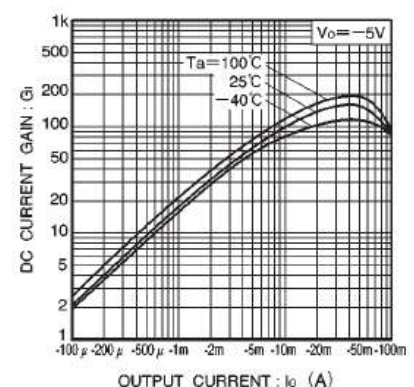


Fig.3 DC current gain vs. output current

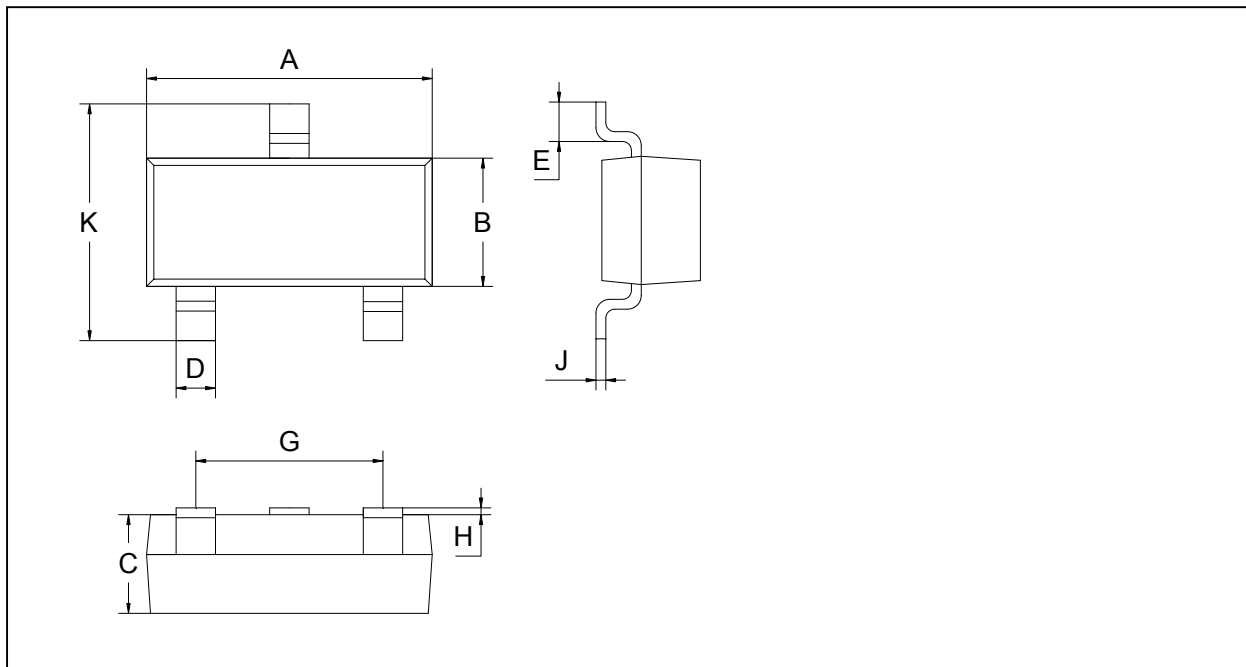
Digital Transistor

TDTA(R₁=R₂ SERIES)CAG

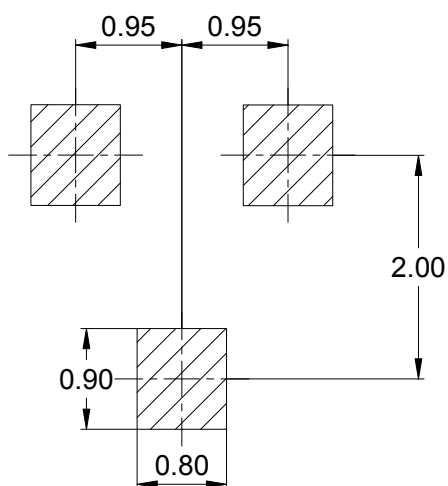
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
TDTA114ECAG/124ECAG/143ECAG/144ECAG	SOT-23	3000/Tape&Reel