

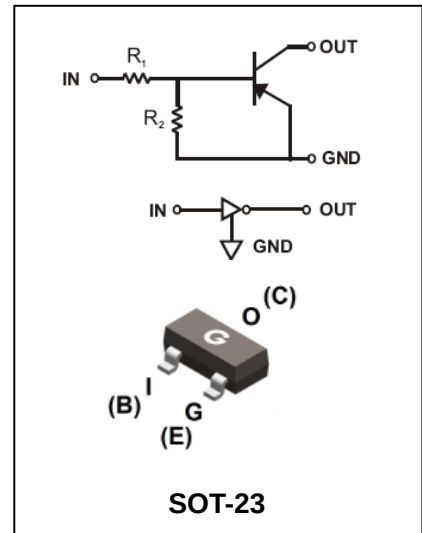
Digital Transistor

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
- RoHS compliant with Halogen-free

HF



APPLICATIONS

- The PNP style digital transistor

ORDERING INFORMATION

Type No.	Marking	Package Code
DTA113ZCA	E11	SOT-23
DTA114WCA	74	SOT-23
DTA114YCA	54	SOT-23
DTA123JCA	E32	SOT-23
DTA123YCA	52	SOT-23
DTA143XCA	33	SOT-23
DTA143ZCA	E13	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CC}	Supply Voltage	-50	V
V _{IN}	Input Voltage	DTA113ZCA +5 to -10 DTA114WCA +10 to -30 DTA114YCA +6 to -40 DTA123JCA +5 to -12 DTA123YCA +5 to -12 DTA143XCA +7 to -20 DTA143ZCA +5 to -30	V
I _O	Output Current	DTA113ZCA -100 DTA114WCA -100 DTA114YCA -70 DTA123JCA -100 DTA123YCA -100 DTA143XCA -100 DTA143ZCA -100	mA

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DTA($R_1 \neq R_2$ SERIES)CA

Symbol	Parameter	Value	Units
I _C (Max.)	Output current ALL	-100	mA
P _D	Power Dissipation	200	mW
R _{θJA}	Thermal Resistance, Junction to Ambient Air *1	409	°C/W
R _{θJC}	Thermal Resistance, Junction to Case *1	225	°C/W
R _{θJL}	Thermal Resistance, Junction to Lead *1	197	°C/W
T _J	Junction Temperature	-55 to +150	°C
T _{STG}	Operating and Storage and Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

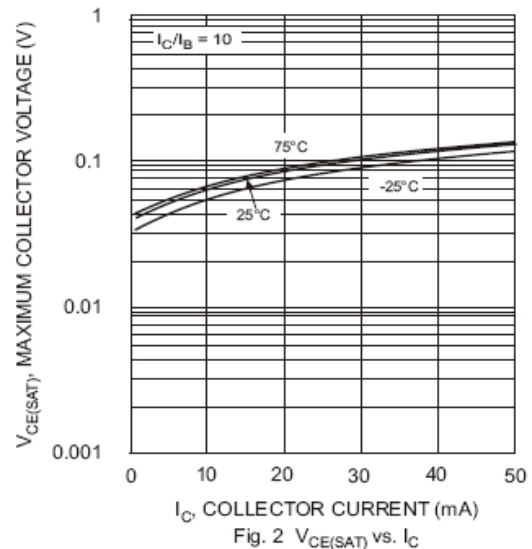
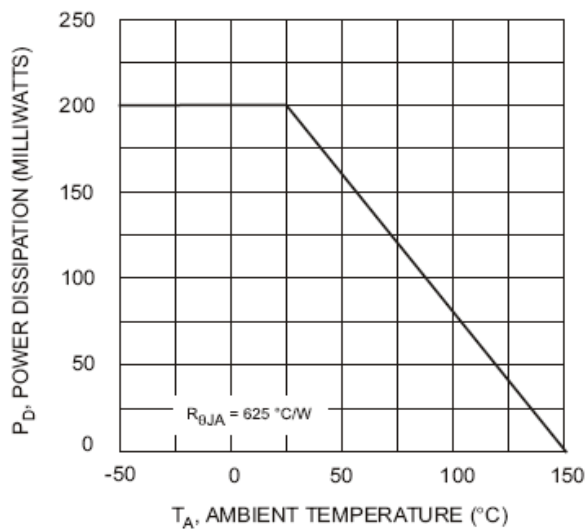
Parameter		Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Input Voltage	DTA113ZCA DTA114WCA DTA114YCA DTA123JCA DTA123YCA DTA143XCA DTA143ZCA	V _{I(off)}	V _{CC} =-5V,I _O =-100μA	-0.3 -0.8 -0.3 -0.5 -0.3 -0.3 -0.5	-	-	V	
Input Voltage	DTA113ZCA DTA114WCA DTA114YCA DTA123JCA DTA123YCA DTA143XCA DTA143ZCA	V _{I(on)}	V _O =-0.3V,I _O =-20mA V _O =-0.3V,I _O =-2mA V _O =-0.3V,I _O =-1mA V _O =-0.3V,I _O =-5mA V _O =-0.3V,I _O =-20mA V _O =-0.3V,I _O =-20mA V _O =-0.3V,I _O =-5mA	-	-	-3.0 -3.0 -1.4 -1.1 -3.0 -2.5 -1.3		
Output Voltage	DTA123JCA DTA143ZCA DTA114YCA ALL Others	V _{O(on)}	I _O /I _I =-5mA/-0.25mA I _O /I _I =-10mA/-0.5mA	-	-0.1	-0.3		V
Input Current	DTA113ZCA DTA114WCA DTA114YCA DTA123JCA DTA123YCA DTA143XCA DTA143ZCA	I _I	V _I =-5V	-	-	-7.2 -0.88 -0.88 -3.6 -3.8 -1.8 -1.8		mA
Output Current		I _{O(off)}	V _{CC} =-50V,V _I =0V	-	-	-0.5		μA

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DC Current Gain	DTA113ZCA DTA114WCA DTA114YCA DTA123JCA DTA123YCA DTA143XCA DTA143ZCA	G _I	V _O =-5V, I _O =-10mA	33 24 68 80 33 30 80	-	-	
Input Resistor	DTA113ZCA DTA114WCA DTA114YCA DTA123JCA DTA123YCA DTA143XCA DTA143ZCA	R ₁ (R ₂)		0.7 7 7 1.54 1.54 3.29 3.29	1(10) 10(4.7) 10(47) 2.2(47) 2.2(10) 4.7(10) 4.7(47)	1.3 13 13 2.86 2.86 6.11 6.11	kΩ
Input Resistor (R ₁) Tolerance		ΔR ₁	-	-30		+30	%
Resistance Ratio Tolerance		ΔR ₂ /R ₁	-	-20		+20	%
Gain-Bandwidth 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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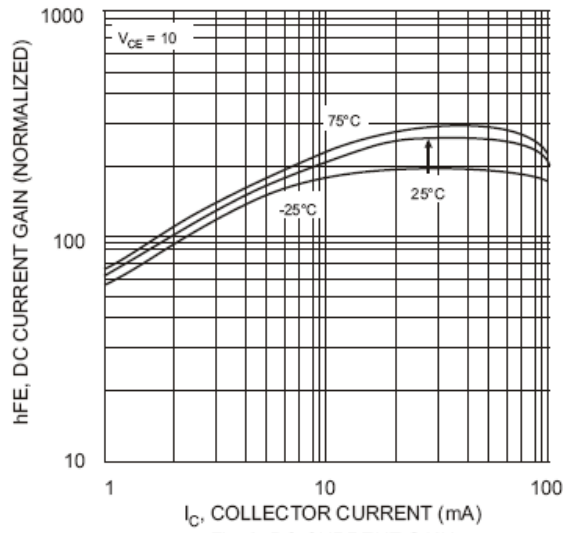


Fig. 3 DC CURRENT GAIN

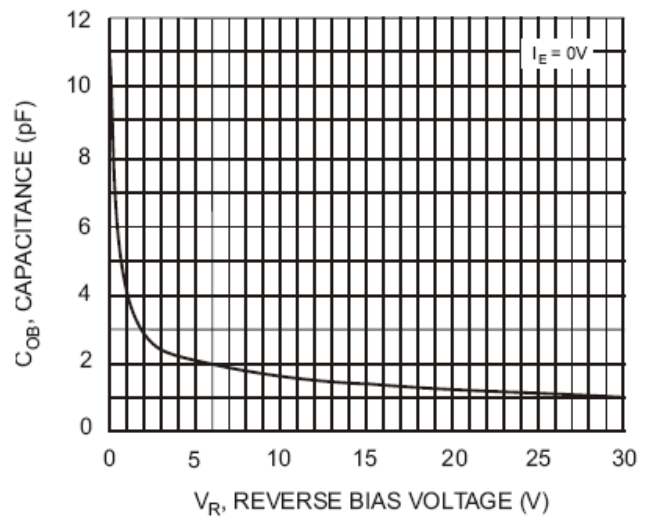


Fig. 4 Output Capacitance

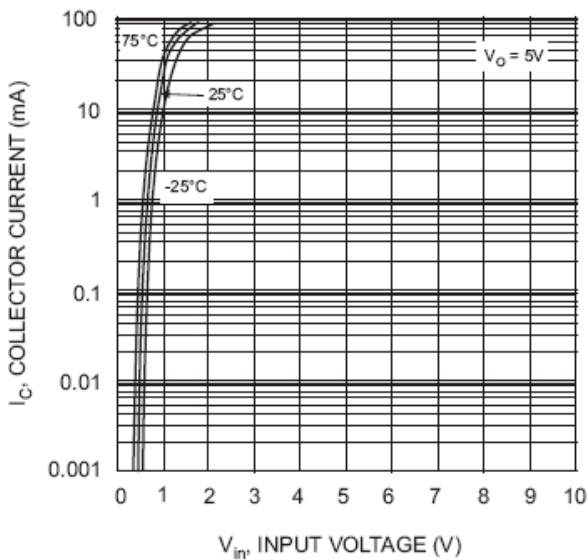


Fig. 5 Collector Current Vs. Input Voltage

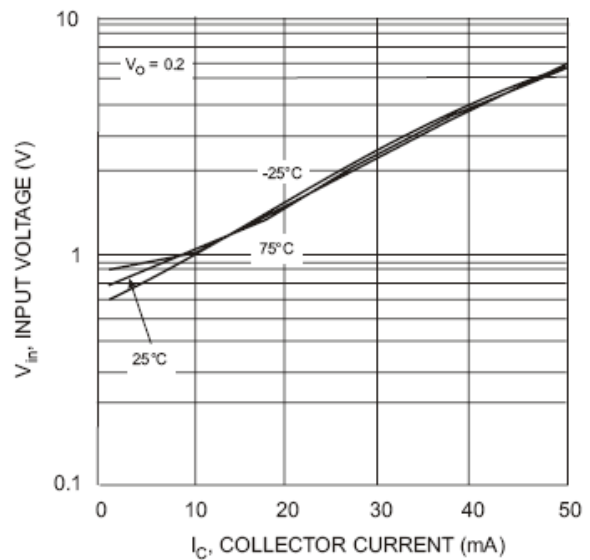


Fig. 6 Input Voltage vs. Collector Current

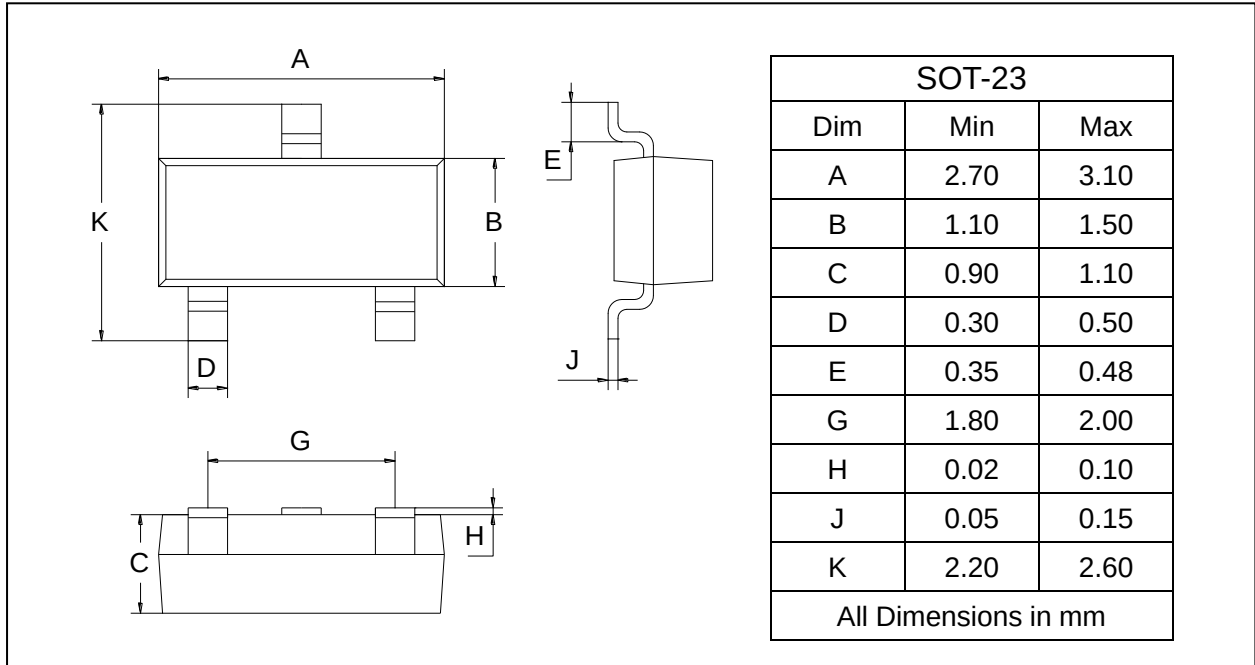
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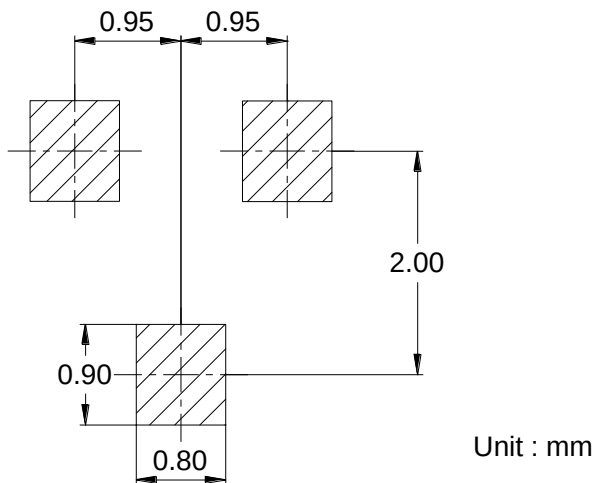
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
DTAXXXCA	SOT-23	3000 pcs / Tape & Reel