

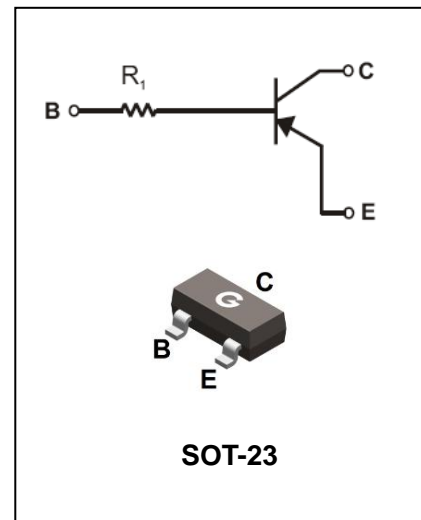
Digital Transistor

DTA(R₁-only SERIES)CA

FEATURES

- Epitaxial planar die construction
- Complementary NPN types available(DTC)
- Built-in biasing resistor, R₁ only
- Also available in lead free version

HF



APPLICATIONS

- The PNP style digital transistor

ORDERING INFORMATION

Type No.	Marking	Package Code
DTA114TCA	94	SOT-23
DTA143TCA	93	SOT-23
DTA144TCA	96	SOT-23

MAXIMUM RATING @ T_A = 25°C unless otherwise specified

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	-50	V
V _{CEO}	Collector-Emitter Voltage	-50	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _{C(Max.)}	Collector Current	-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 , T _{STG}	Operating and Storage and Temperature Range	-55 to +150	°C

Note 1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B

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ELECTRICAL CHARACTERISTICS @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base breakdown Voltage	BV _{CBO}	I _C = -50μA	-50			V
Collector-Emitter breakdown Voltage	BV _{CEO}	I _C = -1mA	-50			V
Emitter-Base breakdown Voltage	BV _{EBO}	I _E = -50μA	-5			V
Collector cutoff Current	I _{CBO}	V _{CB} = -50V	-	-	-0.5	μA
Emitter cutoff Current	I _{EBO}	V _{EB} = -4V	-	-	-0.5	μA
Collector-Emitter saturation voltage DTA114TCA DTA143TCA DTA144TCA	V _{CE(sat)}	I _C /I _B = -1mA/-0.1mA I _C /I _B = -2.5mA/-0.25mA I _C /I _B = -2.5mA/-0.25mA			-0.3	V
DC Current Gain	h _{FE}	I _C = -1mA, V _{CE} = -5V	100	250	600	
Input Resistor(R ₁) DTA114TCA DTA143TCA DTA144TCA	R ₁		7 3.19 31.9	10 4.7 47	13 6.11 61.1	KΩ
Input Resistor(R ₁)Tolerance	ΔR ₁		-30		+30	%
Gain-Bandwidth Product	f _T	V _{CE} = -10V, I _E = -5mA, f = 100MHz	-	250	-	MHz

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TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

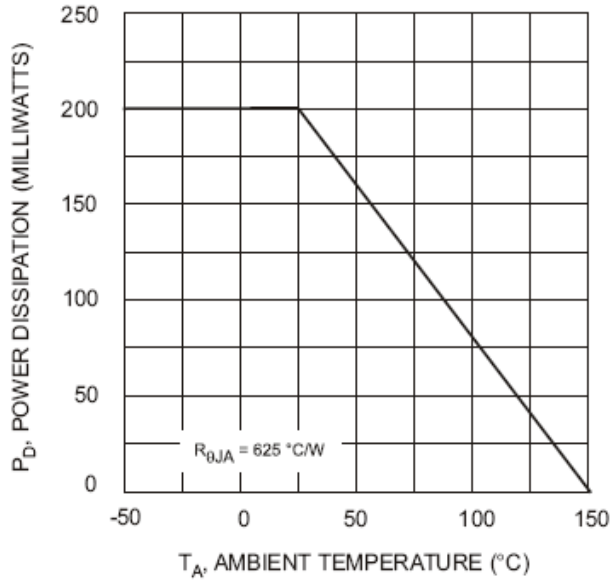


Fig. 1 Derating Curve

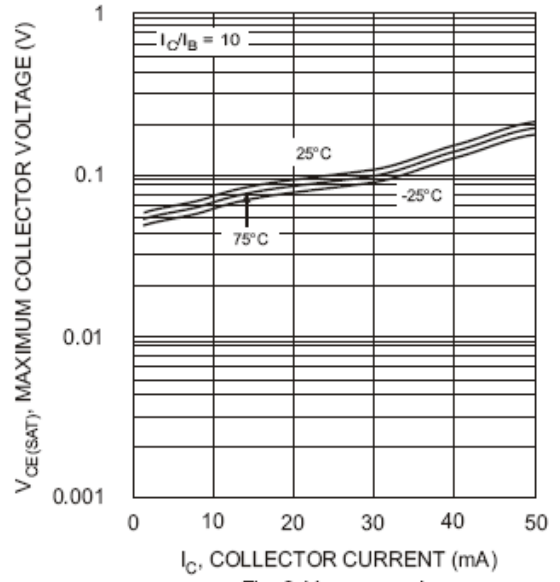


Fig. 2 $V_{CE(SAT)}$ vs. I_C

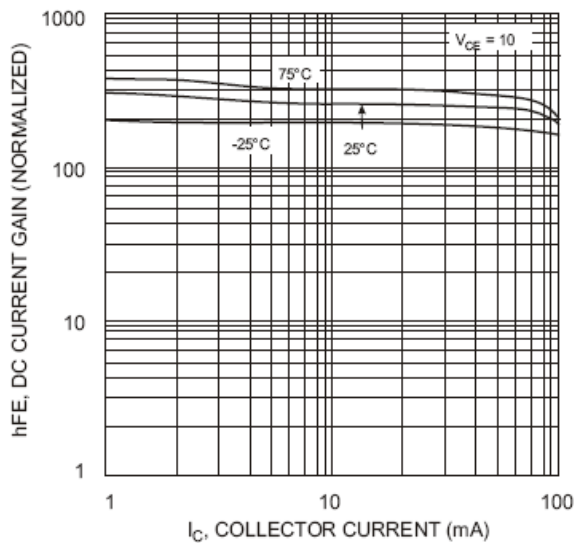


Fig. 3 DC Current Gain

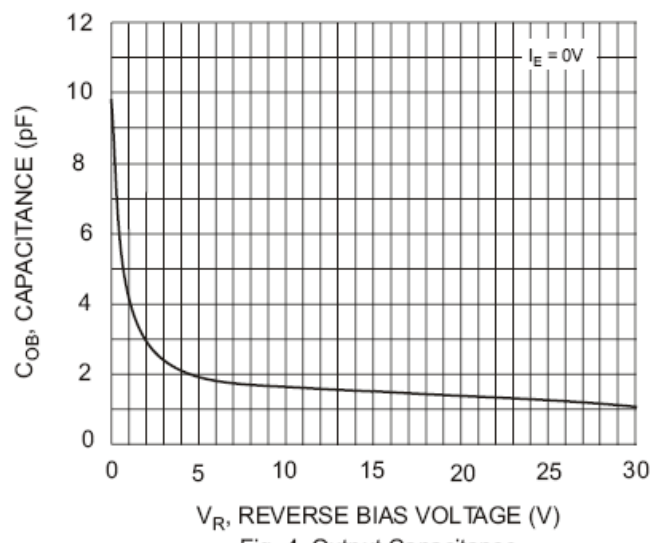


Fig. 4 Output Capacitance

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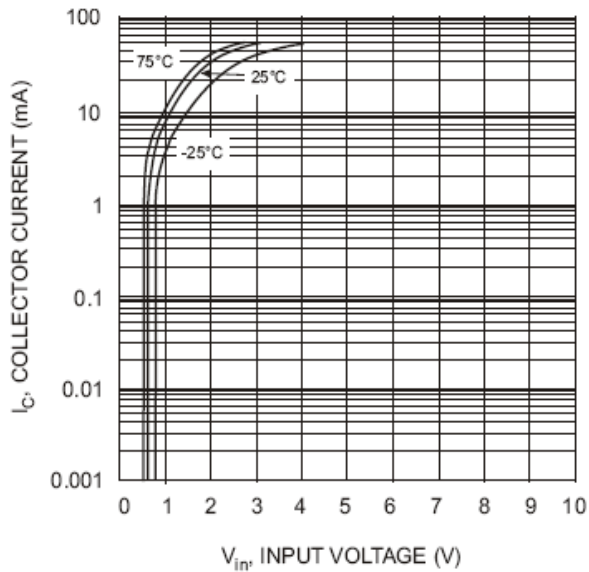


Fig. 5 Collector Current Vs. Input Voltage

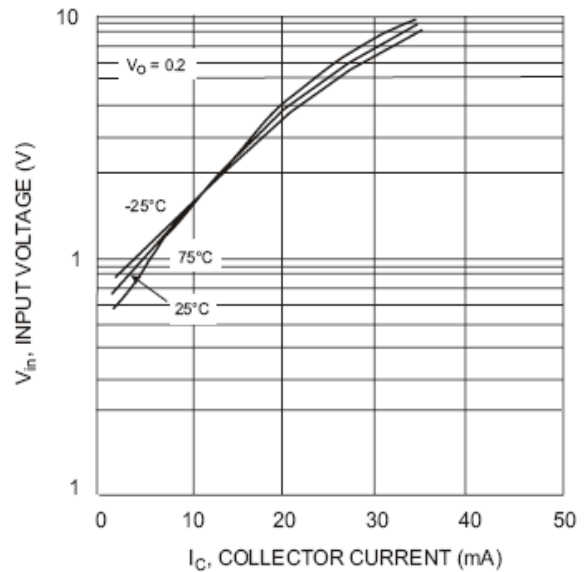


Fig. 6 Input Voltage vs. Collector Current

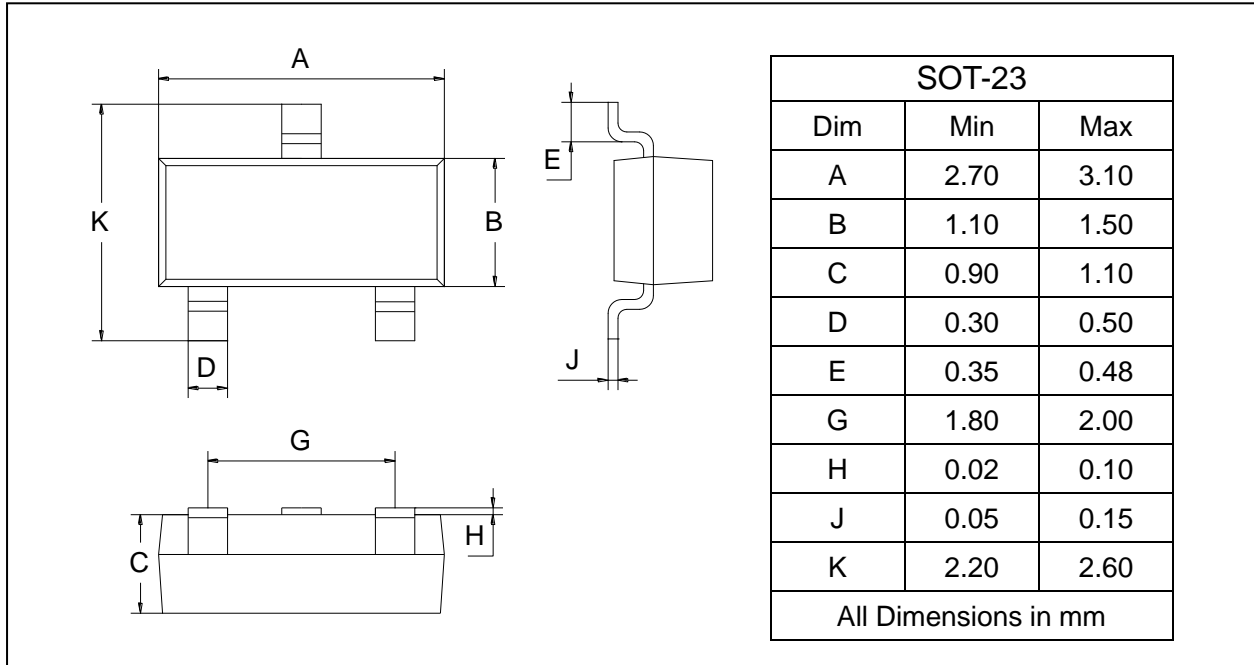
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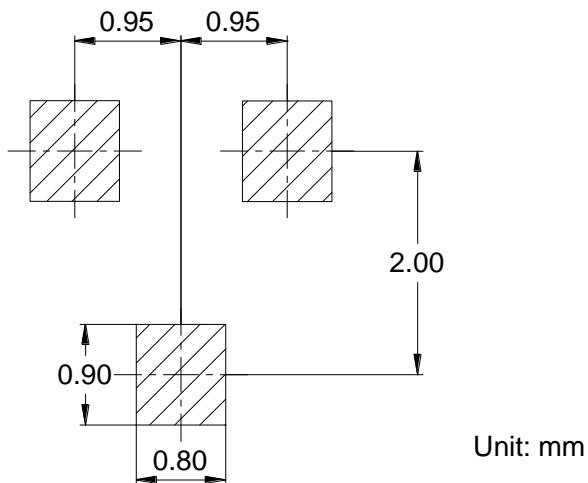
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
DTA114TCA/143TCA/144TCA	SOT-23	3000 pcs / Tape & Reel