

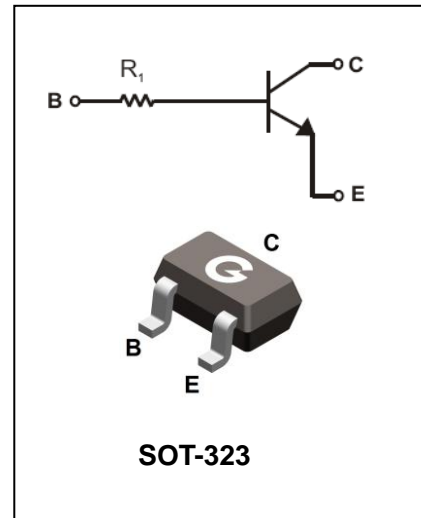
Digital Transistor

DTC(R₁-only SERIES)UA

FEATURES

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

HF



APPLICATIONS

- The NPN style digital transistor

ORDERING INFORMATION

Type No.	Marking	Package Code
DTC143TUA	43	SOT-323
DTC114TUA	04	SOT-323
DTC144TUA	06	SOT-323

MAXIMUM RATING @ Ta=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	625	°C/W
T _J , T _{STG}	Operating and Storage and Temperature Range	-55 to +150	°C

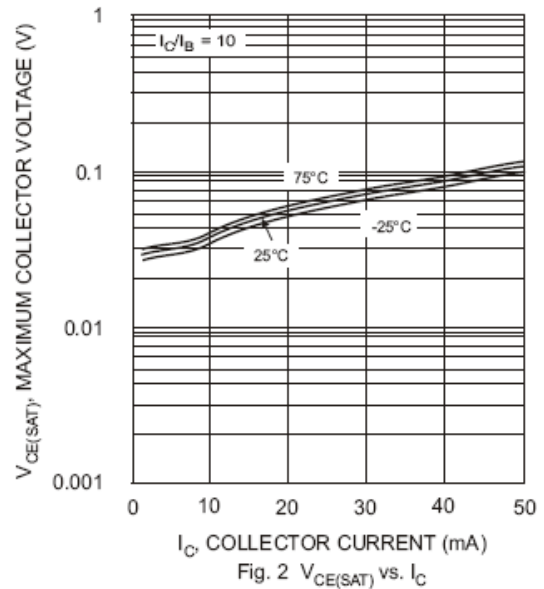
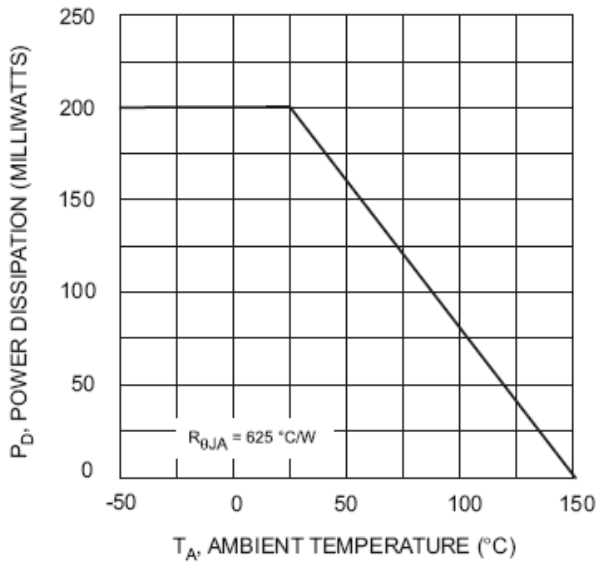
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

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 DTC143TUA DTC114TUA DTC144TUA	V _{CE(sat)}	I _C /I _B =2.5mA/0.25mA I _C /I _B =1mA/0.1mA 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) DTC143TUA DTC114TUA DTC144TUA	R ₁			4.7 10 47		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

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



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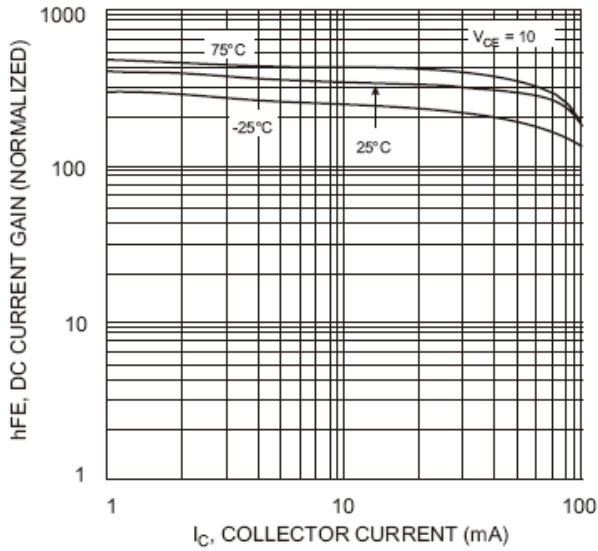


Fig. 3 DC Current Gain

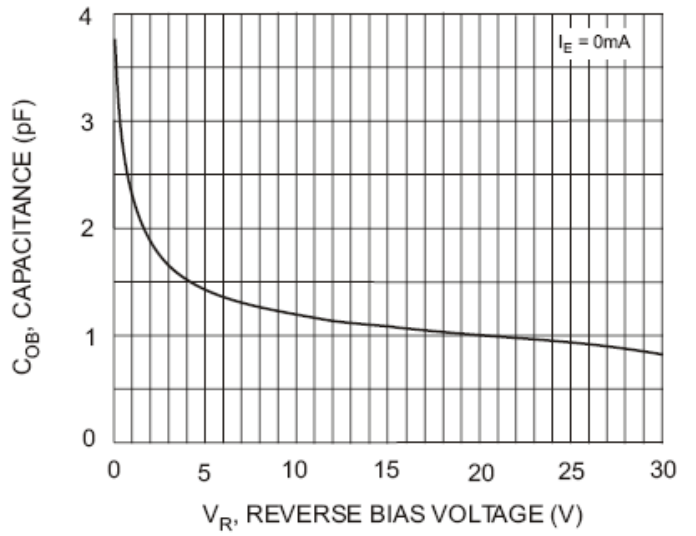


Fig. 4 Output Capacitance

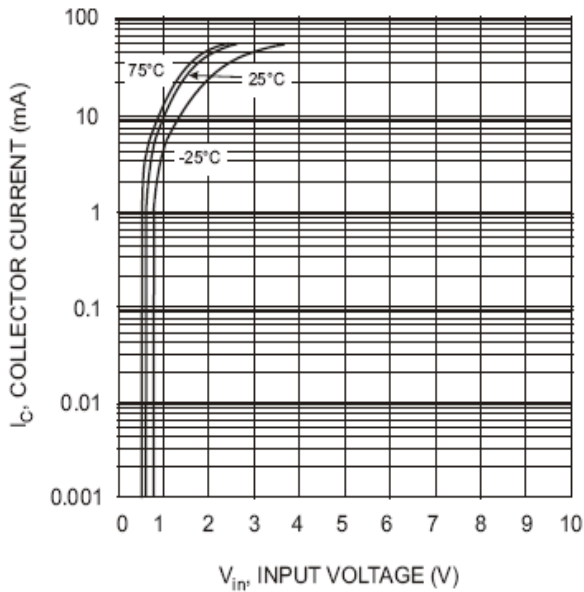


Fig. 5 Collector Current Vs. Input Voltage

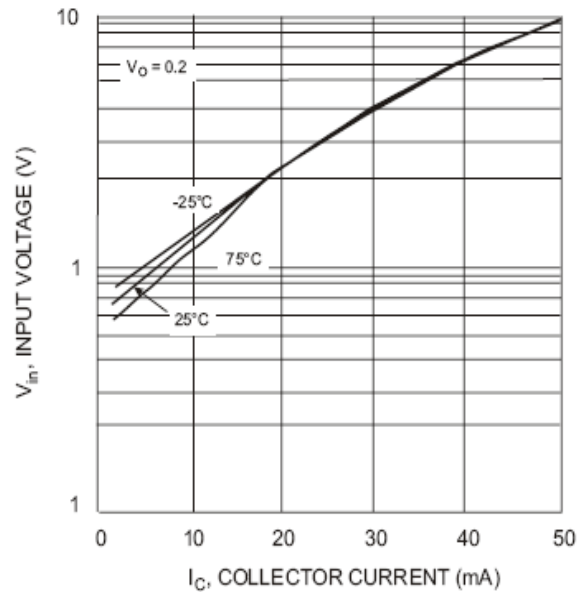


Fig. 6 Input Voltage vs. Collector Current

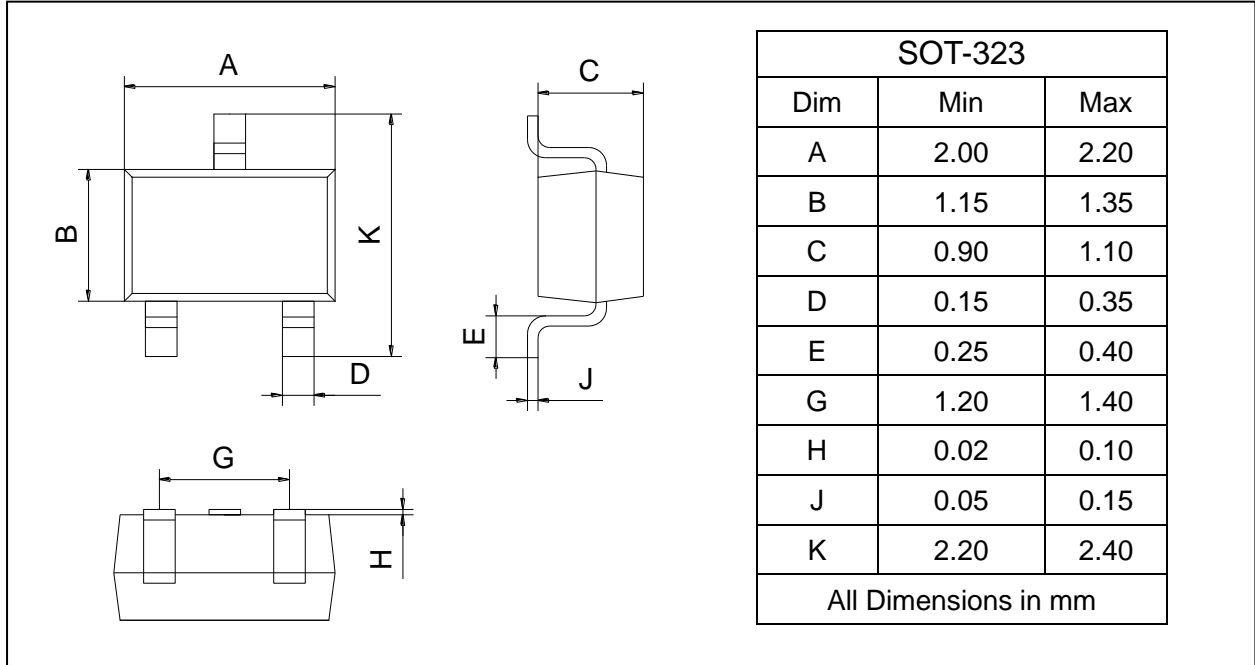
Digital Transistor

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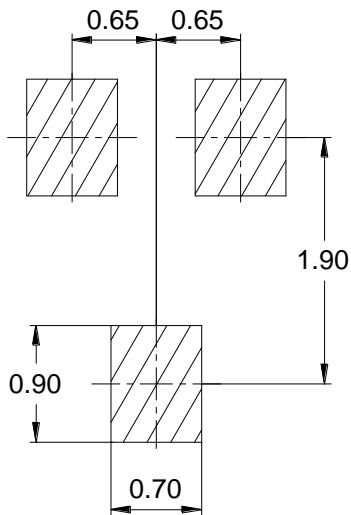
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



Unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
DTCXXXTUA	SOT-323	3000 pcs / Tape & Reel