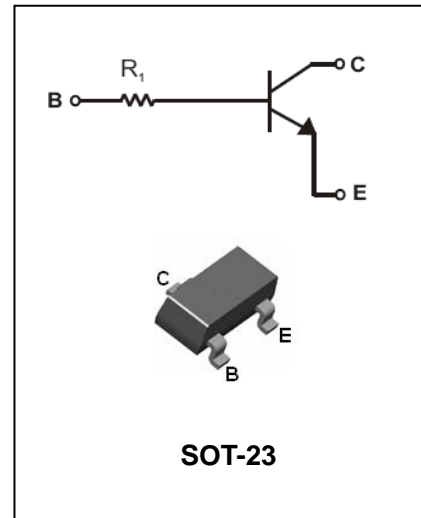


Digital Transistor

DTC(R₁-only SERIES)CA

FEATURES

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



APPLICATIONS

- The NPN style digital transistor.

ORDERING INFORMATION

Type No.	Marking	Package Code
DTC114TCA	04	SOT-23
DTC143TCA	03	SOT-23
DTC144TCA	06	SOT-23

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

Digital Transistor

DTC(R₁-only SERIES)CA

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 DTC114TCA DTC143TCA DTC144TCA	V _{CE(sat)}	I _C /I _B =10mA/1mA I _C /I _B =5mA/0.25mA I _C /I _B =5mA/0.5mA			0.3	V
DC Current Gain	h _{FE}	I _C =1mA, V _{CE} =5V	100	250	600	
Input Resistor(R ₁) DTC114TCA DTC143TCA DTC144TCA	R ₁		7 3.29 32.9	10 4.7 47	13 6.11 61.1	kΩ
Gain-Bandwidth Product	f _T	V _{CE} =10V, I _E =-5mA, f=100MHz	-	250	-	MHz

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

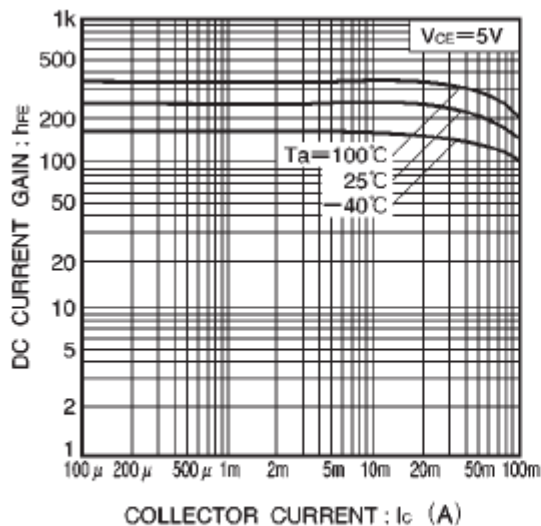


Fig.1 DC current gain vs. collector current

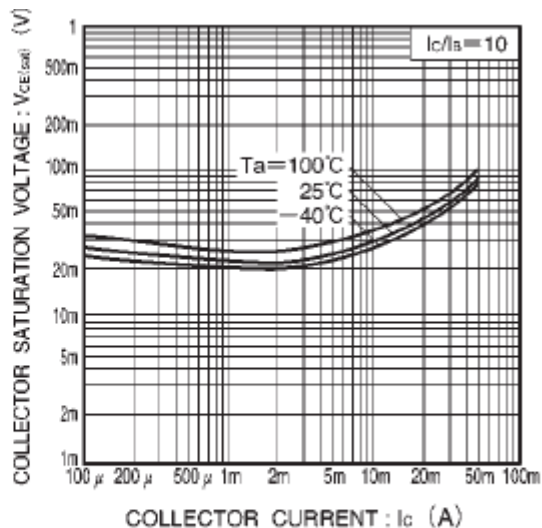


Fig.2 Collector-emitter saturation voltage vs. collector current

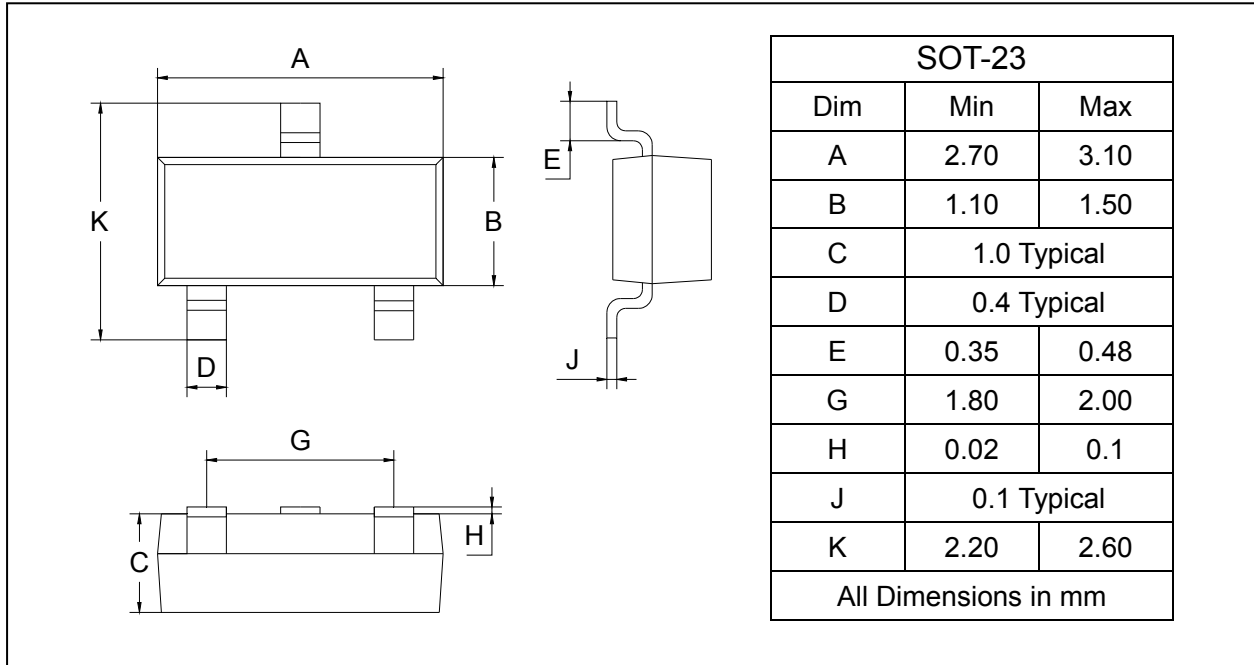
Digital Transistor

DTC(R₁-only SERIES)CA

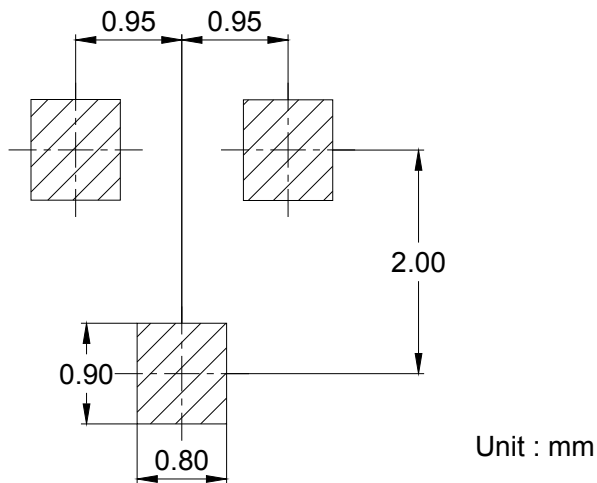
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
DTC143TCA/114TCA/144TCA	SOT-23	3000/Tape&Reel