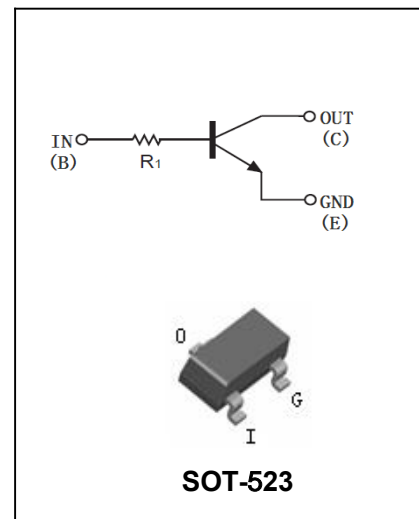


Digital Transistor

DTC(R₁-only SERIES)E

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
DTC114TE	04	SOT-523
DTC143TE	03	SOT-523
DTC144TE	06	SOT-523

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	150	mW
R _{θJA}	Thermal Resistance, Junction to Ambient Air *1	306	°C/W
R _{θJC}	Thermal Resistance, Junction to Case *1	152	°C/W
R _{θJL}	Thermal Resistance, Junction to Lead *1	61	°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



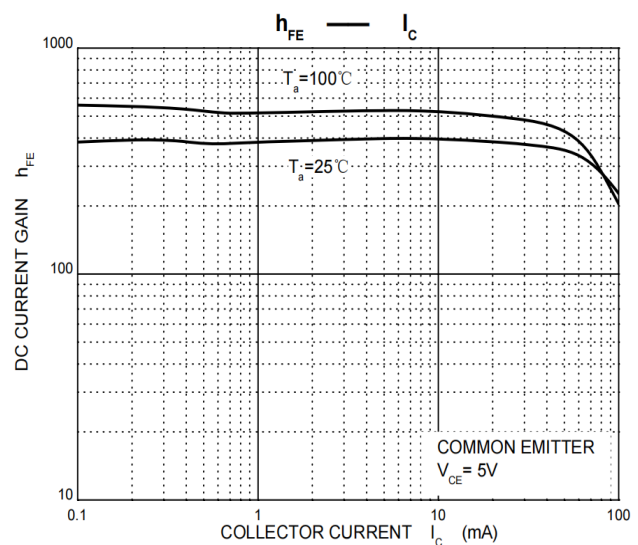
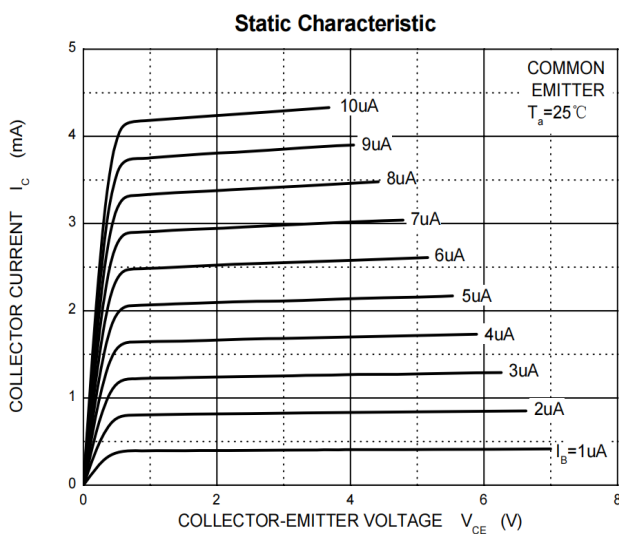
Digital Transistor

DTC(R₁-only SERIES)E

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 DTC114TE DTC143TE DTC144TE	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) DTC114TE DTC143TE DTC144TE	R ₁		7 3.29 32.9	10 4.7 47	13 6.11 61.1	kΩ
Transition frequency	f _T	V _{CE} =10V, I _E =-5mA, f=100MHz	-	250	-	MHz

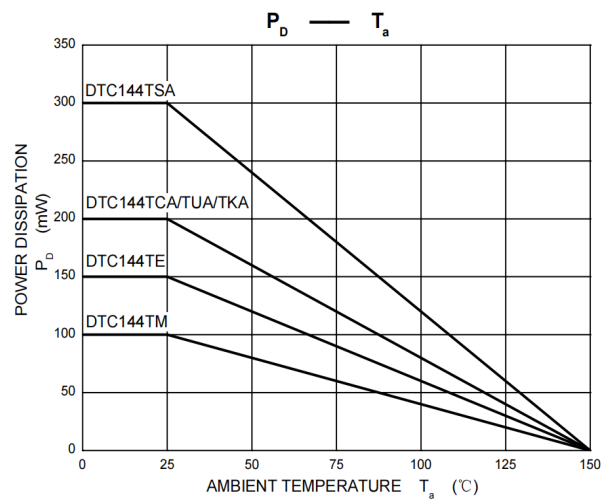
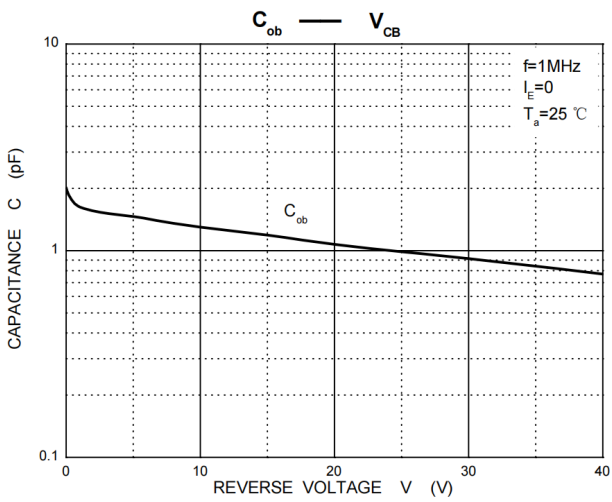
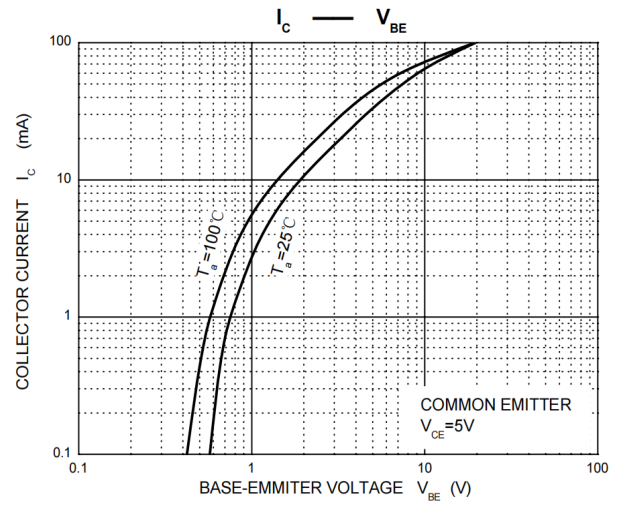
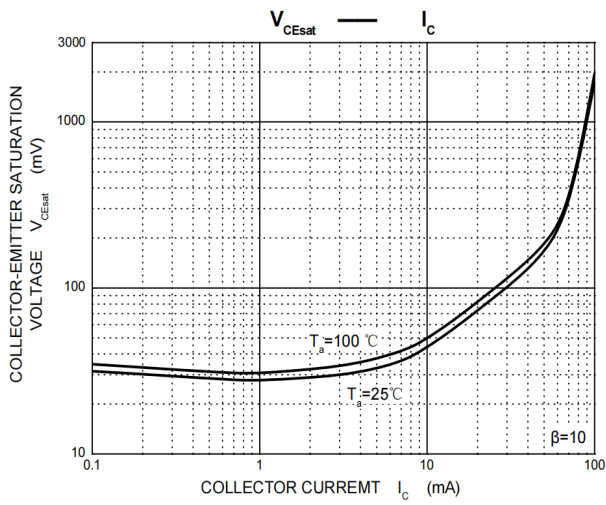
TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified





Digital Transistor

DTC(R₁-only SERIES)E



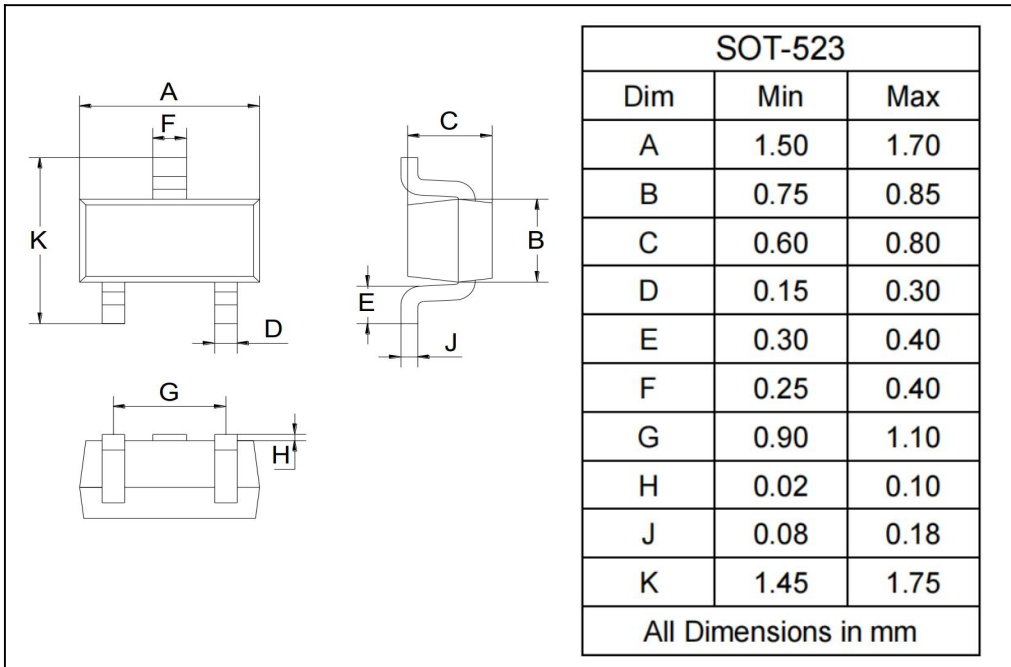
Digital Transistor

DTC(R₁-only SERIES)E

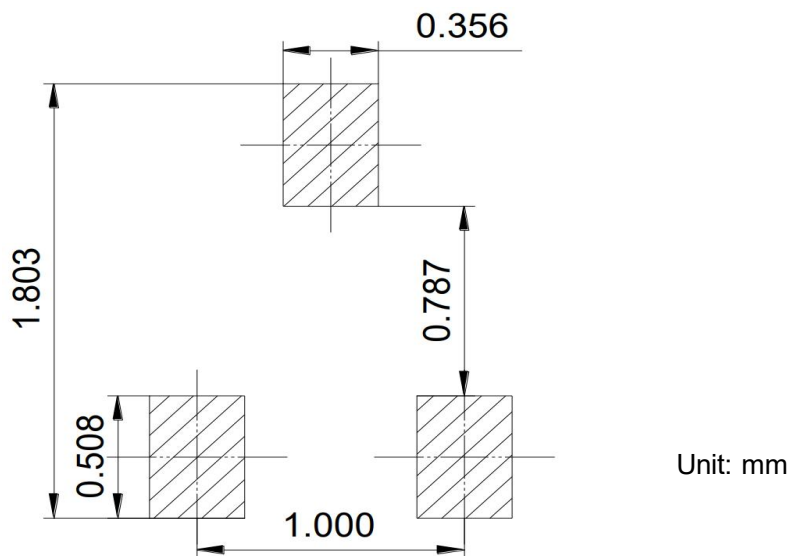
PACKAGE OUTLINE

Plastic surface mounted package

SOT-523



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
DTC143TE/114TE/144TE/123TE	SOT-523	3000 pcs / Tape & Reel