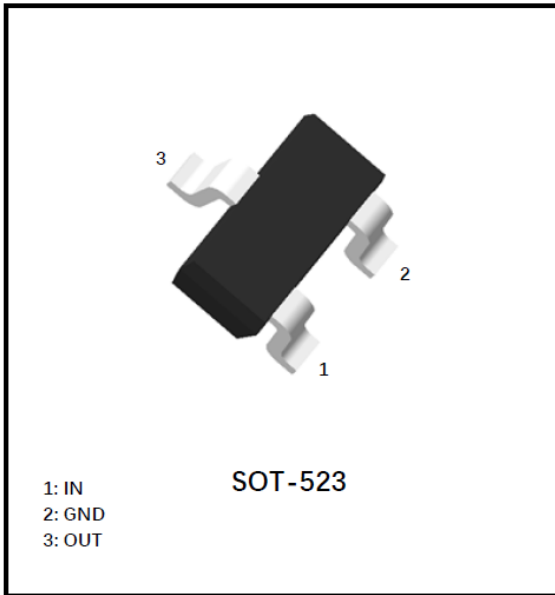


## Digital Transistors (Built-in Resistors)



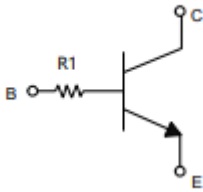
### Features

- Moisture Sensitivity Level 1
- Surface mount package ideally Suited for Automatic Insertion
- Epoxy meets UL-94 V-0 flammability rating, halogen-free

### Mechanical Data

- **Package:** SOT-523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 03

### ■Equivalent circuit



### ■Maximum Ratings (Ta=25°C Unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	VALUE
Collector-Base Voltage	$V_{CBO}$	V		50
Collector-Emitter Voltage	$V_{CEO}$	V		50
Emitter-Base Voltage	$V_{EBO}$	V		5
Collector Current	$I_C$	mA		100
Power Dissipation	$P_D$	mW		150
Junction Temperature	$T_j$	°C		150
Storage Temperature	$T_{STG}$	°C		-55 to +150



# DTC143TE

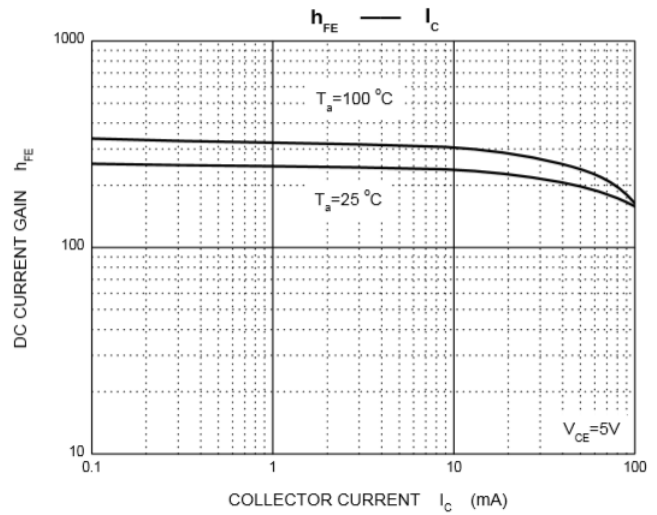
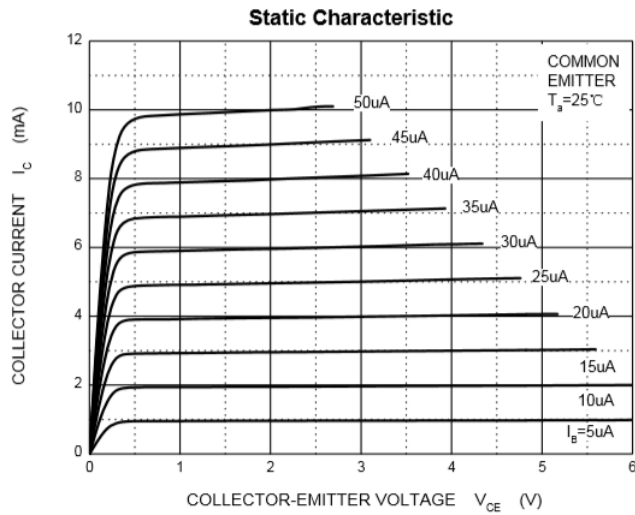
## ■ Electrical Characteristics (Ta=25°C unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Collector-Base Breakdown Voltage	$V_{CBO}$	V	$I_C=50\mu A$	50		
Collector-Emitter Breakdown Voltage	$V_{CEO}$	V	$I_C=1mA$	50		
Emitter-Base Breakdown Voltage	$V_{EBO}$	V	$I_E=50\mu A$	5		
Collector Cut-off Current	$I_{CBO}$	$\mu A$	$V_{CB}=50V$			0.5
Emitter Cut-off Current	$I_{EBO}$	$\mu A$	$V_{EB}=4V$			0.5
DC current gain	$h_{FE}$		$V_{CE}=5V, I_C=1mA$	100		600
Input resistance	$R_1$	$k\Omega$		3.29	4.7	6.11
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=5mA, I_B=0.25mA$			0.3
Transition frequency	$f_T$	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$		250	

## ■ Ordering Information (Example)

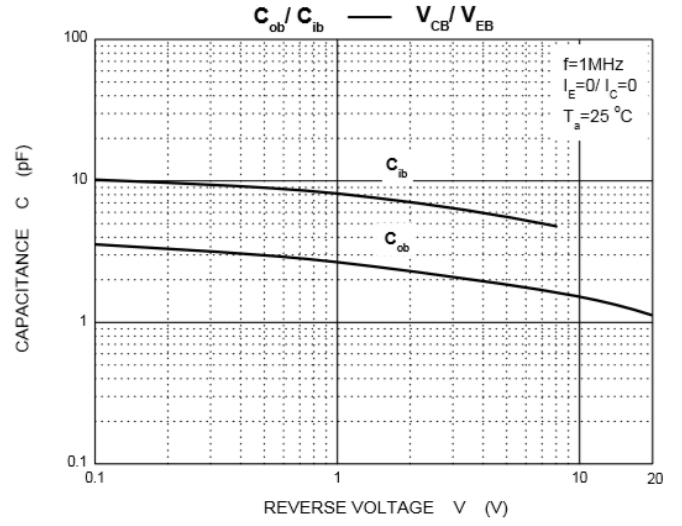
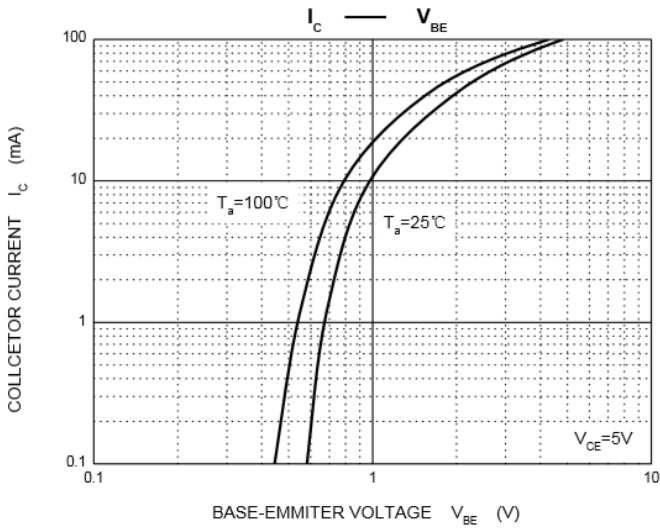
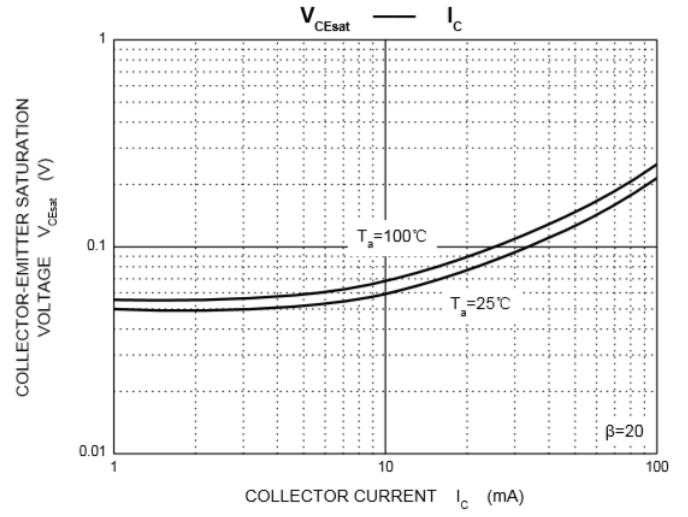
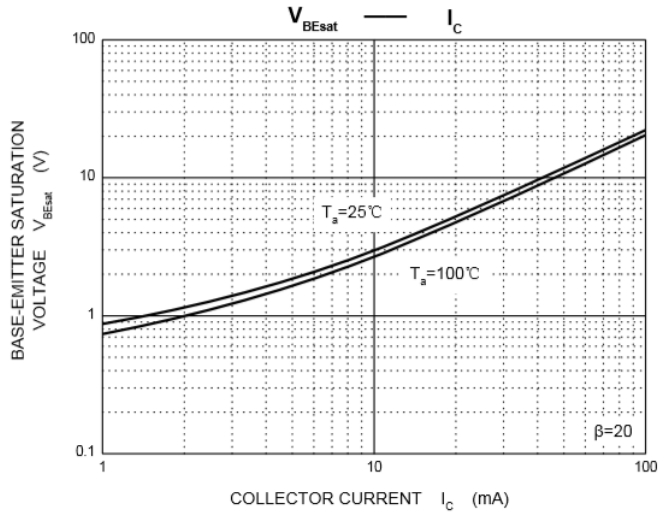
Prefered P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
DTC143TE	F2	Approximate 0.0027	3000	30000	120000	7" reel

## ■ Characteristics (Typical)





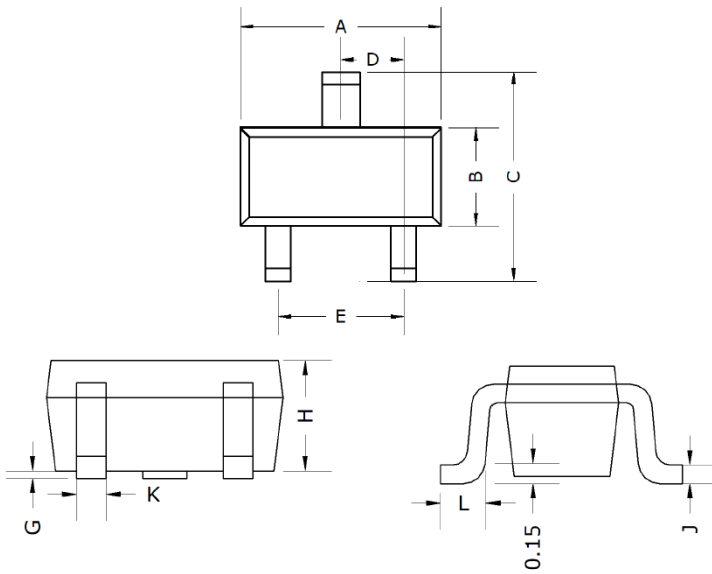
# DTC143TE





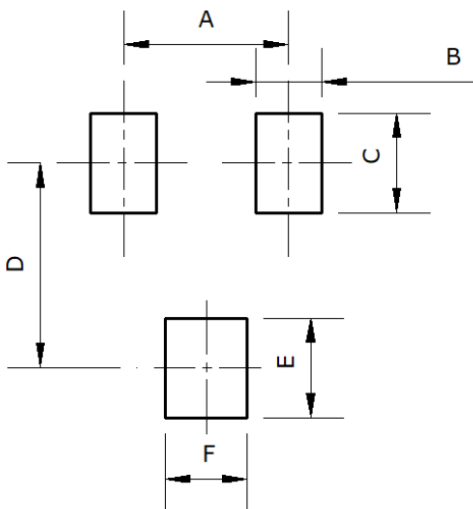
# DTC143TE

## ■ SOT-523 Package Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.059	0.067	1.50	1.70
B	0.030	0.033	0.75	0.85
C	0.057	0.069	1.45	1.75
D	0.020TYP		0.50TYP	
E	0.035	0.043	0.90	1.10
G	0.000	0.004	0.00	0.10
H	0.024	0.031	0.60	0.80
J	0.004	0.008	0.10	0.20
K	0.006	0.014	0.15	0.35
L	0.010	0.018	0.26	0.46

## ■ SOT-523 Suggested Pad Layout



DIMENSIONS	
DIM	MM (TYP)
A	1.00
B	0.40
C	0.60
D	1.24
E	0.60
F	0.50



## DTC143TE

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