

DTC144TE

NPN Digital Transistor

Description

Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors. The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects. Only the on/off conditions need to be set for operation.

Mechanical Data

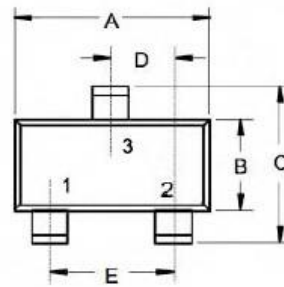
- Case: SOT-523 Molded plastic
- Epoxy: UL94V-O rate flame retardant

Packing & Order Information

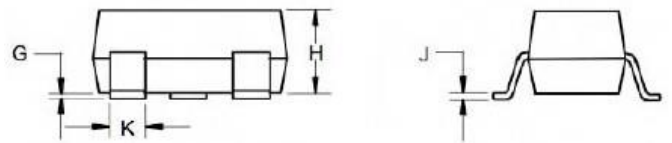
3,000/Reel



**RoHS
COMPLIANT**

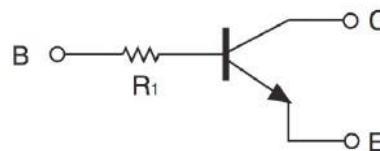


1. Base
2. Emitter
3. Collector



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50 Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

Graphic symbol



Inner circuit R1=47kΩ

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute maximum ratings (Ta=25°C)

Symbol	Parameter	DTC144TE	Unit
V _{CBO}	Collector-Base Voltage	50	V
V _{CEO}	Collector-Emitter Voltage	50	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current	100	A
P _C	Collector Dissipation	150	W
T _j , T _{stg}	Junction and Storage Temperature	150	°C

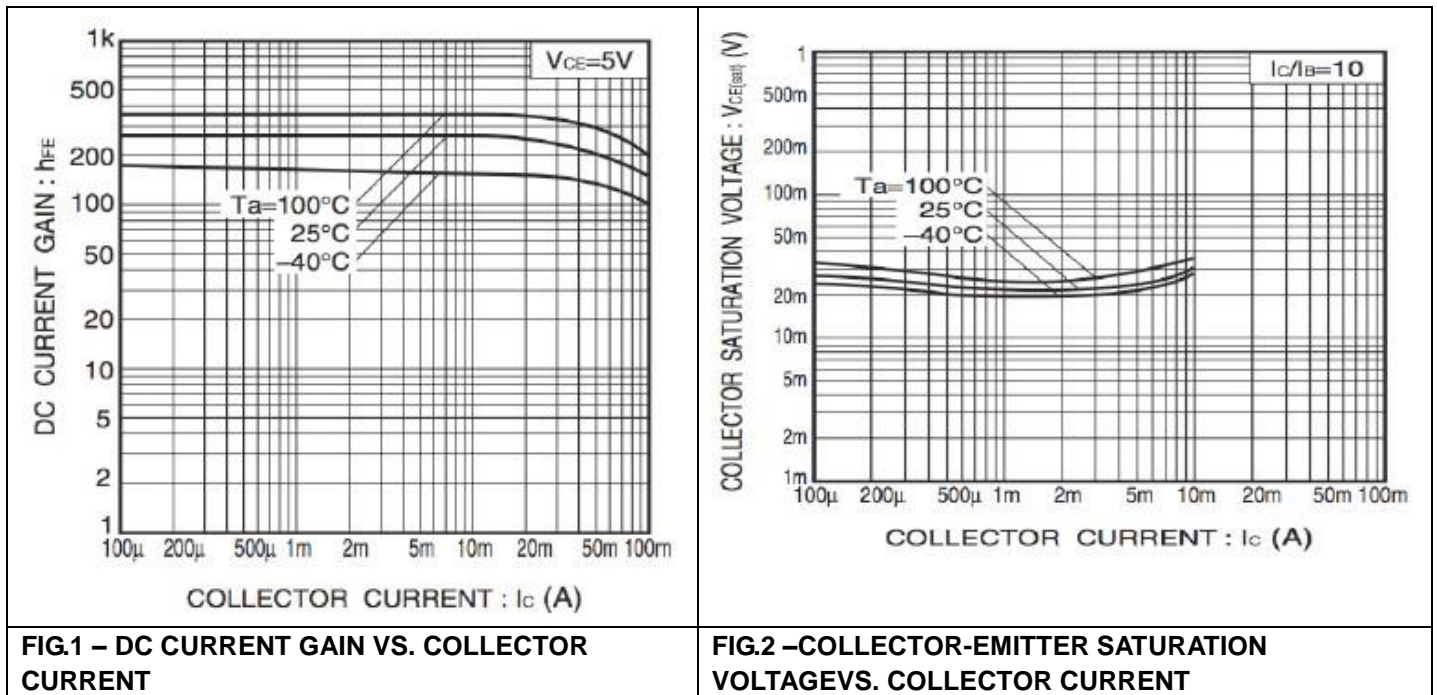
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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Symbol	Parameter	Test Conditions	MIN	TYP	MAX	UNIT
$V(BR)_{CBO}$	Collector-base breakdown voltage	$I_C = 50\mu A$	50			V
$V(BR)_{CEO}$	Collector-emitter breakdown voltage	$I_C = 1\text{ mA}$	50			V
$V(BR)_{EBO}$	Emitter-base breakdown voltage	$I_E = 50\mu A$	5			V
I_{CBO}	Collector cut-off current	$V_{CB} = 50\text{ V}, I_E = 0$			0.5	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = 4\text{ V}, I_C = 0$			0.5	μA
$h_{FE(1)}$	DC current gain	$V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$	100	300	600	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C/I_B = 50\text{ mA} / 5\text{ mA}$			0.3	V
R1	Input resistance	$V_{CE} = -6\text{ V}, I_C = -20\text{ mA}$	32.9	47	61.1	k Ω
f_T	Transition frequency	$V_{CE} = 10\text{ V}, I_E = 5\text{ mA}$ $f = 100\text{ MHz}$		250		MHz

■ RATINGS AND CHARACTERISTIC CURVES



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