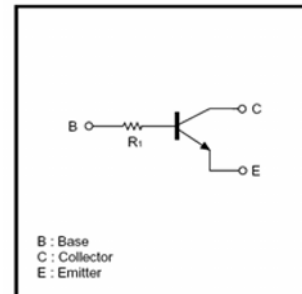


## FEATURES

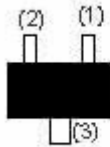
- \* Built-in bias resistors enable the configuration of an inverter circuit without connecting input resistors (see equivalent circuit).
- \* Only the on/off conditions need to be set for operation, making device design easy.
- \* The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.

### ●Equivalent circuit



## PIN CONNECTIONS AND MARKING

### DTC143TE



- (1) Base
- (2) Emitter
- (3) Collector

SOT-523

Abbreviated symbol: 03

### DTC143TUA

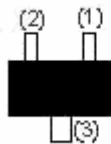


- (1) Base
- (2) Emitter
- (3) Collector

SOT-323

Abbreviated symbol: 03

### DTC143TKA



- (1) Base
- (2) Emitter
- (3) Collector

SOT-23-3L

Abbreviated symbol: 03

### DTC143TCA

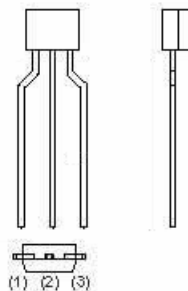


- (1) Base
- (2) Emitter
- (3) Collector

SOT-23

Abbreviated symbol: 03

### DTC143TSA



- (1) Emitter
- (2) Collector
- (3) Base

TO-92S

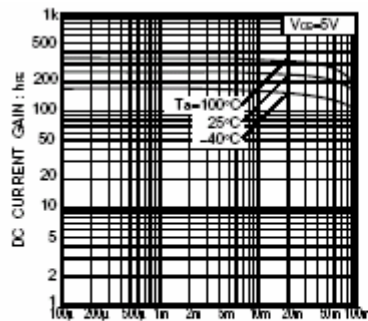
**Absolute maximum ratings(Ta=25°C)**

Parameter	Symbol	Limits (DTC143T□ )					Unit
		E	UA	CA	KA	SA	
Collector-base voltage	$V_{(BR)CBO}$	50					V
Collector-emitter voltage	$V_{(BR)CEO}$	50					V
Emitter-base voltage	$V_{(BR)EBO}$	5					V
Collector current	$I_C$	100					mA
Collector Power dissipation	$P_C$	150	200		300		mW
Junction temperature	$T_j$	150					°C
Storage temperature	$T_{stg}$	-55~150					°C

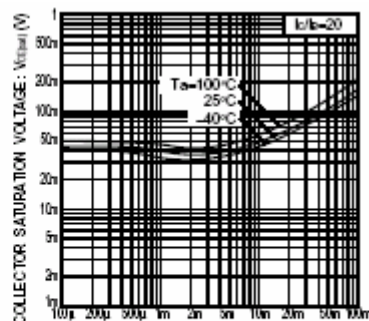
**Electrical characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	50			V	$I_C=50\mu A$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	50			V	$I_C=1mA$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	5			V	$I_E=50\mu A$
Collector cut-off current	$I_{CBO}$			0.5	$\mu A$	$V_{CB}=50V$
Emitter cut-off current	$I_{EBO}$			0.5	$\mu A$	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$			0.3	V	$I_C=5mA, I_B=0.25mA$
DC current transfer ratio	$h_{FE}$	100		600		$V_{CE}=5V, I_C=1mA$
Input resistance	$R_i$	3.29	4.7	6.11	K $\Omega$	
Transition frequency	$f_T$		250		MHz	$V_O=10V, I_O=5mA, f=100MHz$

**Typical Characteristics**



COLLECTOR CURRENT :  $I_C$  (A)  
Fig.1 DC current gain vs. collector current



COLLECTOR CURRENT :  $I_C$  (A)  
Fig.2 Collector-emitter saturation voltage vs. collector current