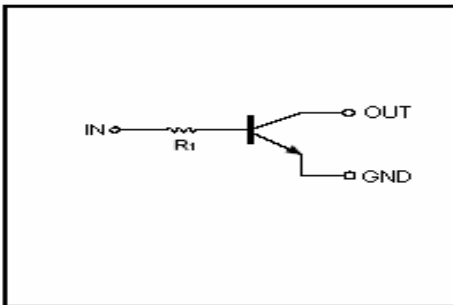


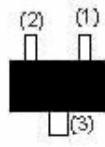

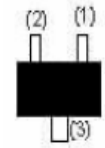
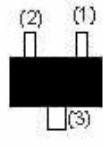
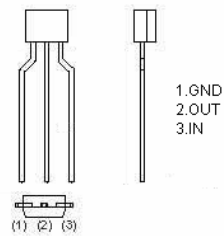
RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- The bias resistors consist of thin-film resistors with complete isolation to allow positive 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, making device design easy.

EQUIVALENT CIRCUIT



<p>DTC143TE (SOT-523)</p>  <p>1.IN 2.GND 3.OUT</p> <p>Abbreviated symbol : 03</p>	<p>DTC143TUA (SOT-323)</p>  <p>1.IN 2.GND 3.OUT</p> <p>Abbreviated symbol : 03</p>
<p>DTC143TM (SOT-723)</p>  <p>1.IN 2.GND 3.OUT</p> <p>Abbreviated symbol : 03</p>	<p>DTC143TCA (SOT-23)</p>  <p>1.IN 2.GND 3.OUT</p> <p>Abbreviated symbol : 03</p>
<p>DTA143TSA (TO-92S)</p>  <p>1.GND 2.OUT 3.IN</p>	

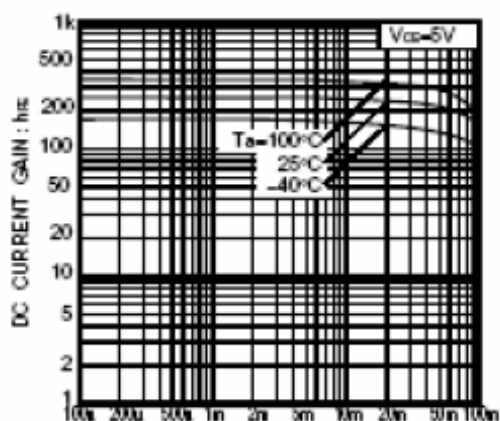
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Limits (DTC143T□)					Unit
		M	E	UA	CA	SA	
Collector-Base Voltage	$V_{(BR)CBO}$	50					V
Collector-Emitter Voltage	$V_{(BR)CEO}$	50					V
Emitter-Base Voltage	$V_{(BR)EBO}$	5					mA
Collector Current	I_C	100					
Collector Dissipation	P_C	100	150	200		300	mW
Junction & Storage temperature	T_J, T_{STG}	150, -55~150					$^\circ\text{C}$

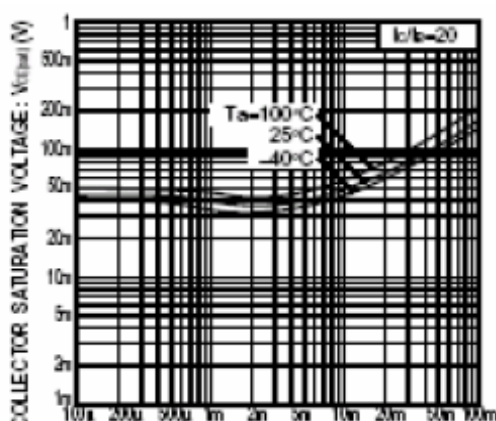
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	50	-	-	V	$I_C=50\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	50	-	-	V	$I_C=1\text{mA}$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	5	-	-	V	$I_E=50\mu\text{A}$
Collector cut-off current	I_{CBO}	-	-	0.5	μA	$V_{CB}=50\text{V}$
Emitter cut-off current	I_{EBO}	-	-	0.5	μA	$V_{EB}=4\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.3	V	$I_C=5\text{mA}, I_B=0.25\text{mA}$
DC current transfer ratio	h_{FE}	100	-	600		$V_{CE}=5\text{V}, I_C=1\text{mA}$
Input resistance	R_1	3.29	4.7	6.11	K Ω	
Transition frequency	f_T	-	250	-	MHz	$V_O=10\text{V}, I_O=5\text{mA}, f=100\text{MHz}$

CHARACTERISTIC CURVES



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