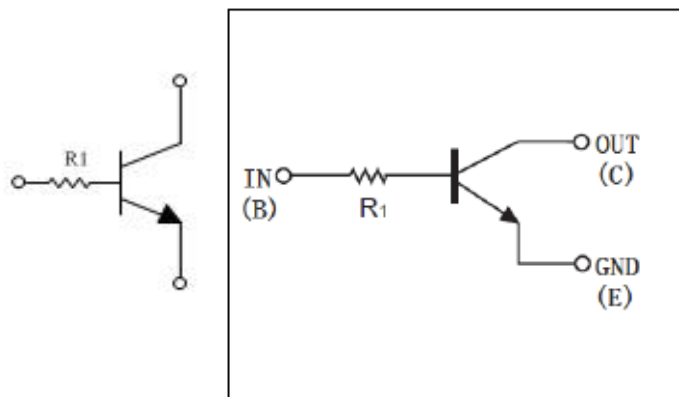


### Features

- ◇ Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistor (see equivalent circuit).
- ◇ 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, marking device design easy.
- ◇ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code.

Equivalent Circuit



### Ordering Information (example)

Part No.	Package	Packing	Packing code	Packing code (Green)	Marking	Manufacture code
DTC143 TM	SOT-723	8K / 7" Reel	RM	RMG	03	M0

Note : Detail please see "Ordering Information(detail, example)" below

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

#### Maximum Ratings

Parameter	Symbol	Value				Unit
		TM	TE	TUA / TCA	TSA	
Power Dissipation	PD	100	150	200	300	mW
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
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150				°C

Notes : 1. Valid provided that electrodes are kept at ambient temperature

#### Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Condition	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50			$I_C=50\mu A$	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50			$I_C=1mA$	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			$I_E=50\mu A$	V
Collector Cut-Off Current	$I_{CBO}$			0.5	$V_{CB}=50V$	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$			0.5	$V_{EB}=4V$	$\mu A$
DC Current Gain	$V_{CE(sat)}$			0.3	$I_C=5mA, I_B=0.25mA$	V
Input Resistance	$h_{FE}$	100		600	$V_{CE}=5V, I_C=1mA$	
Resistance Ratio	$R_1$	3.29	4.7	6.11		K $\Omega$
Transition Frequency	$f_T$		250		$V_{CE}=10V, I_E=5mA, f=100MHz$	MHz

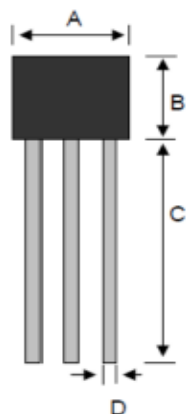
**Ordering information (Detail, example)**

Part No.	Package	Packing	Packing code	Packing code (Green)	Marking	Manufacture code (Note)
DTC143 TM	SOT-723	8K / 7" Reel	RM	RMG	03	
DTC143 TE	SOT-523	3K / 7" Reel	RN	RNG	03	
DTC143 TUA	SOT-323	3K / 7" Reel	RV	RVG	03	
DTC143 TCA	SOT-23	3K / 7" Reel	RU	RUG	03	
DTC143 TSA	TO-92S	3K / Box(Ammo)	A3	A3G		
DTC143 TM	SOT-723	8K / 7" Reel	RM	RMG	03	M0
DTC143 TE	SOT-523	3K / 7" Reel	RN	RNG	03	M0
DTC143 TUA	SOT-323	3K / 7" Reel	RV	RVG	03	M0
DTC143 TCA	SOT-23	3K / 7" Reel	RU	RUG	03	M0
DTC143 TSA	TO-92S	3K / Box(Ammo)	A3	A3G		M0

Note : Manufacture special control, if empty means no special control requirement.

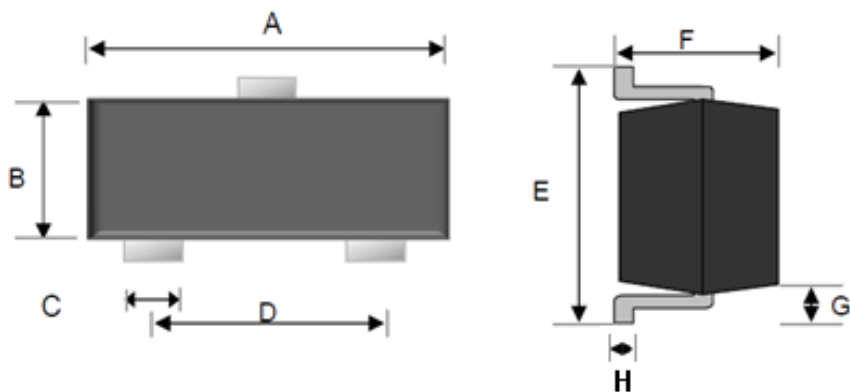
**Dimensions**

**TO-92S**



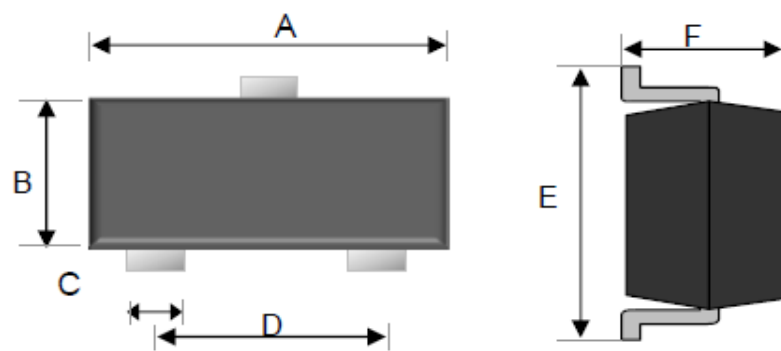
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	3.90	4.10	0.15	0.16
B	3.05	3.25	0.12	0.13
C	15.10	15.50	0.59	0.61
D	0.35	0.48	0.01	0.02
E	1.42	1.62	0.06	0.06
F	0.66	0.86	0.03	0.03
G	0.36	0.51	0.01	0.02

**SOT-23**



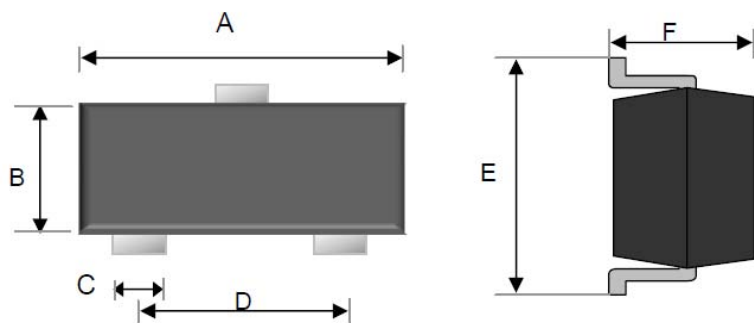
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.20	2.60	0.087	0.102
F	0.90	1.30	0.035	0.051
G	0.550 REF		0.022 REF	
H	0.1 REF		0.004 REF	

**SOT-323**



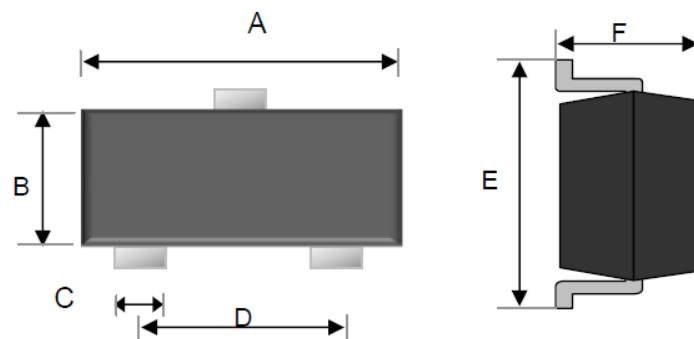
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.80	2.20	0.07	0.09
B	1.15	1.35	0.05	0.05
C	0.15	0.40	0.01	0.02
D	1.20	1.40	0.05	0.06
E	2.00	2.45	0.08	0.10
F	0.80	1.10	0.03	0.04

**SOT-523**



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.50	1.70	0.06	0.07
B	0.70	0.90	0.03	0.04
C	0.15	0.35	0.01	0.01
D	0.90	1.10	0.04	0.04
E	1.45	1.75	0.06	0.07
F	0.62	0.95	0.02	0.04

**SOT-723**



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.15	1.25	0.05	0.05
B	0.75	0.85	0.03	0.03
C	0.17	0.27	0.01	0.01
D	0.80 TYP.		0.031 TYP.	
E	1.15	1.25	0.05	0.05
F	0.43	0.50	0.02	0.02