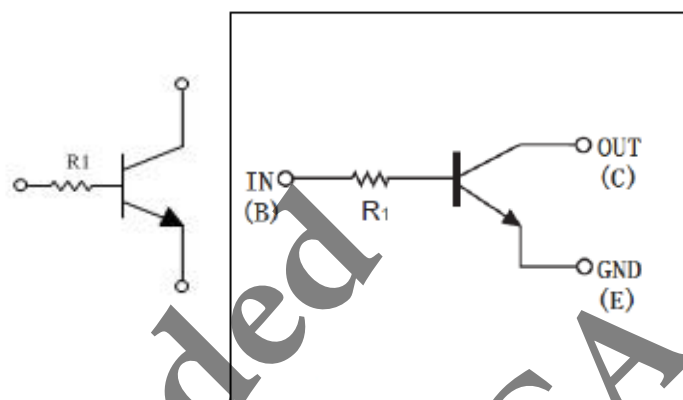


Features

- ◇ 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

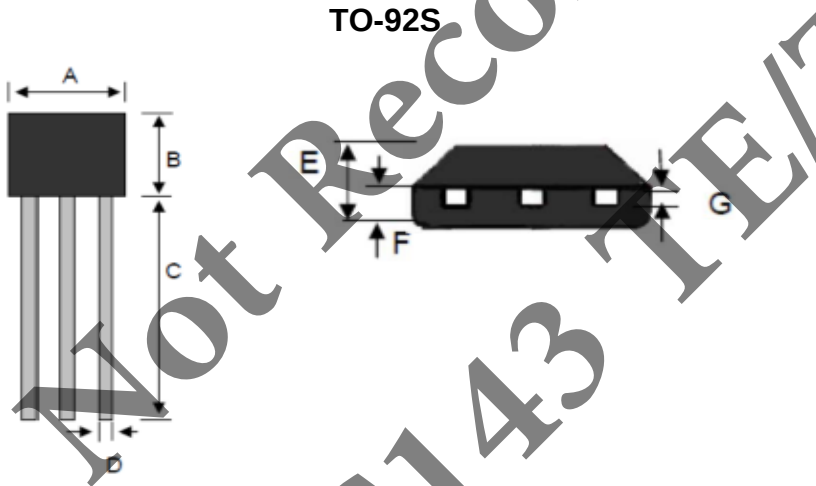
Parameter	Symbol	Min	Typ	Max	Condition	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50			$I_C=50\mu A$	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50			$I_C=1mA$	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			$I_E=50\mu A$	V
Collector Cut-Off Current	I_{CBO}			0.5	$V_{CB}=50V$	μA
Emitter Cut-Off Current	I_{EBO}			0.5	$V_{EB}=4V$	μA
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 Ω
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

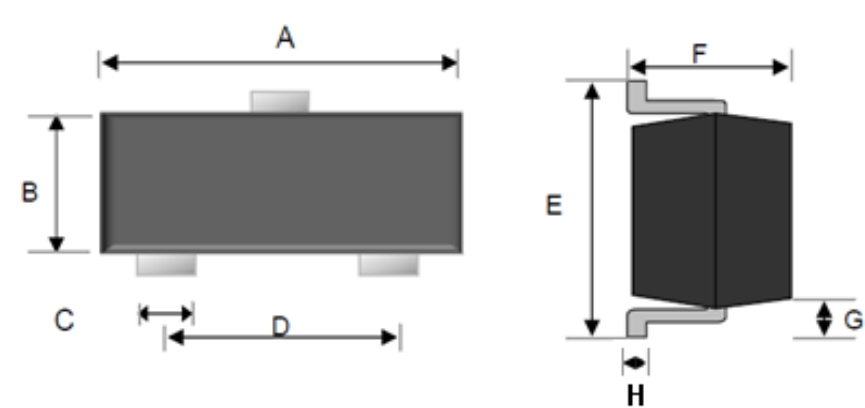
Note : Manufacture special control, if empty means no special control requirement.

Dimensions



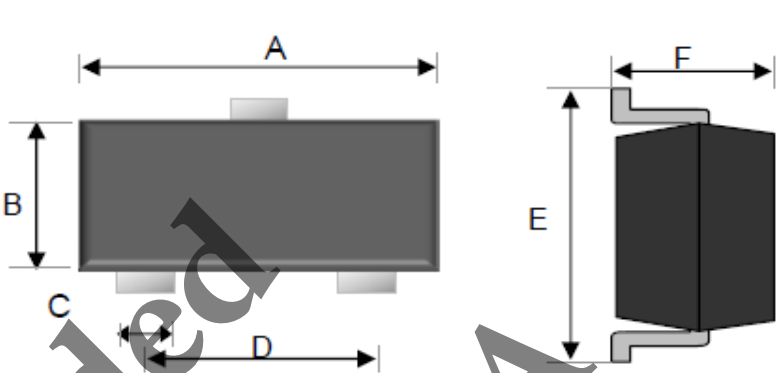
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	3.90	4.10	0.15	0.16
B	3.05	3.25	0.12	0.13
C	15.10	15.50	0.59	0.61
D	0.35	0.48	0.01	0.02
E	1.42	1.62	0.06	0.06
F	0.66	0.86	0.03	0.03
G	0.36	0.51	0.01	0.02

SOT-23



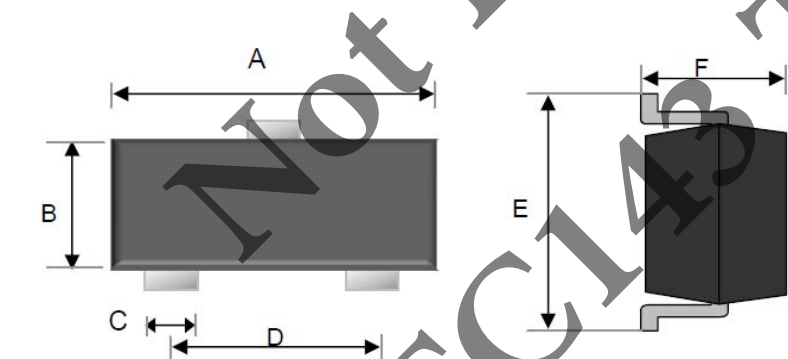
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.20	2.60	0.087	0.102
F	0.90	1.30	0.035	0.051
G	0.550 REF		0.022 REF	
H	0.1 REF		0.004 REF	

SOT-323



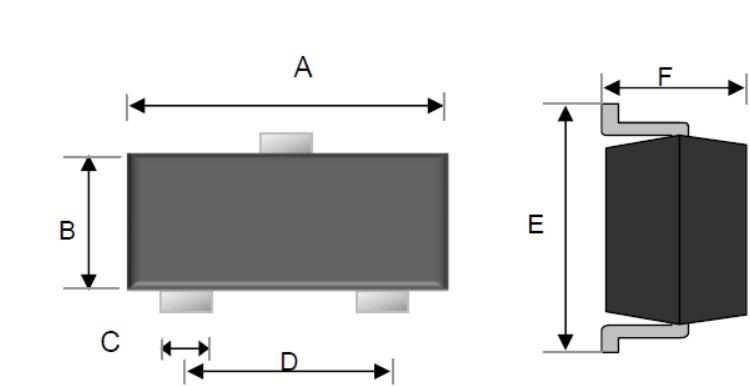
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.80	2.20	0.07	0.09
B	1.15	1.35	0.05	0.05
C	0.15	0.40	0.01	0.02
D	1.20	1.40	0.05	0.06
E	2.00	2.45	0.08	0.10
F	0.80	1.10	0.03	0.04

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