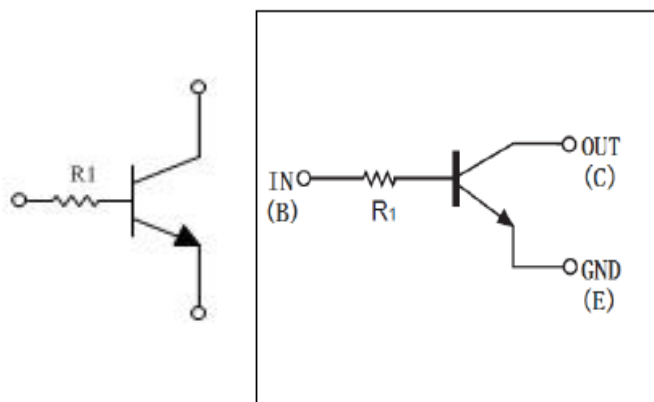


Features

- ◇ 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
DTC144 TM	SOT-723	8K / 7" Reel	RM	RMG	96	M0

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value				Units
		TM	TE	TUA / TCA	TSA	
Power Dissipation	P_D	100	150	200	300	mW
Collector-Base Voltage	V_{CBO}	50				V
Collector-Emitter Voltage	V_{CEO}	50				V
Emitter-Base Voltage	V_{EBO}	5				V
Collector Current	I_C	100				mA
Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to + 150				°C

Note 1 : Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Condition	Units
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	50			$I_C = 50\mu A, I_E = 0$	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50			$I_C = 1mA, I_B = 0$	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			$I_C = 50\mu A, I_C = 0$	V
Collector Cut-Off Current	I_{CBO}			0.5	$V_{CB} = 50V, I_E = 0$	μA
Emitter Cut-Off Current	I_{EBO}			0.5	$V_{EB} = 4V, I_C = 0$	μA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.3	$I_C = 5mA, I_B = 0.5mA$	V
DC Current Gain	h_{FE}	100	300	600	$V_{CE} = 5V, I_C = 1mA$	
Input Resistor	R_1	32.9	47	61.1		K Ω
Transition Frequency	f_T		250		$V_{CE} = 10V, I_E = 5mA, f = 100MHz$	MHz

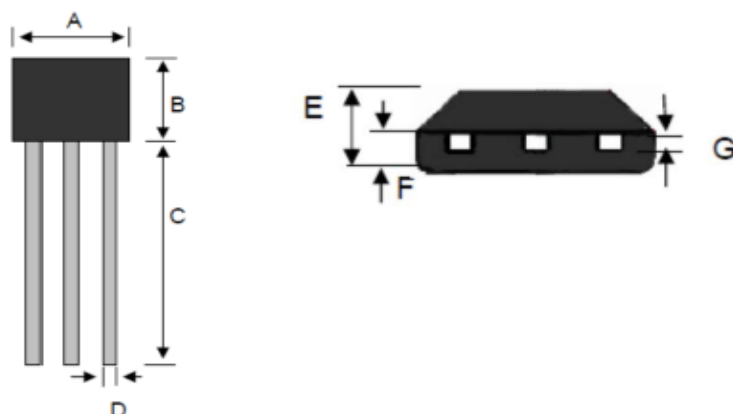
Small Signal Product

Ordering information (Detail, example)

Part No.	Package	Packing	Packing code	Packing code (Green)	Marking	Manufacture code (Note)
DTC144 TM	SOT-723	8K / 7" Reel	RM	RMG	96	
DTC144 TE	SOT-523	3K / 7" Reel	RN	RNG	96	
DTC144 TUA	SOT-323	3K / 7" Reel	RV	RVG	96	
DTC144 TCA	SOT-23	3K / 7" Reel	RU	RUG	96	
DTC144 TSA	TO-92S	3K / 7" Reel	A3	A3G		
DTC144 TM	SOT-723	8K / 7" Reel	RM	RMG	96	M0
DTC144 TE	SOT-523	3K / 7" Reel	RN	RNG	96	M0
DTC144 TUA	SOT-323	3K / 7" Reel	RV	RVG	96	M0
DTC144 TCA	SOT-23	3K / 7" Reel	RU	RUG	96	M0
DTC144 TSA	TO-92S	3K / 7" Reel	A3	A3G		M0

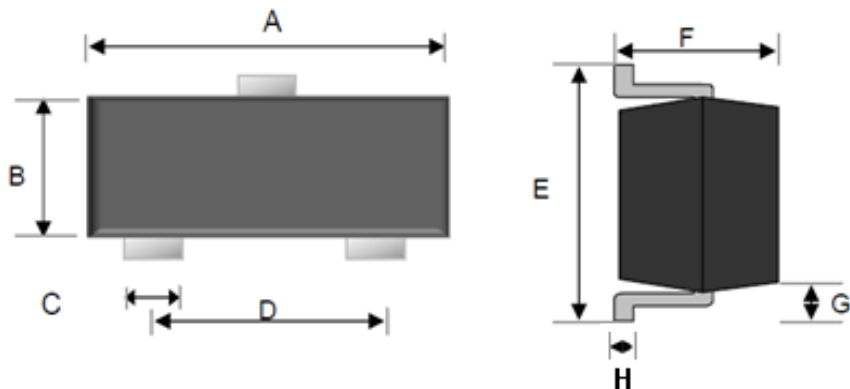
Dimensions

TO-92S



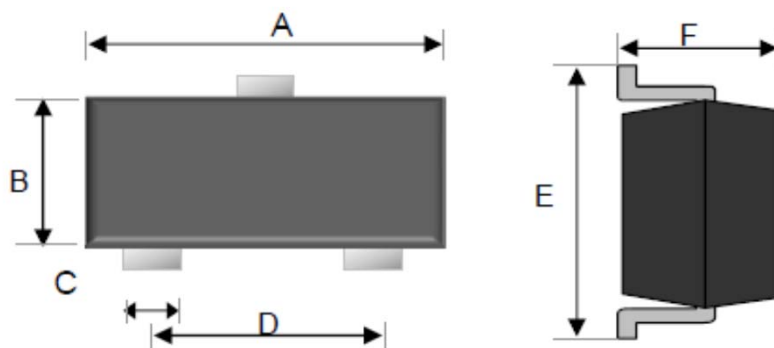
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	3.90	4.10	0.15	0.16
B	3.05	3.25	0.12	0.13
C	15.10	15.50	0.59	0.61
D	0.35	0.48	0.01	0.02
E	1.42	1.62	0.06	0.06
F	0.66	0.86	0.03	0.03
G	0.36	0.51	0.01	0.02

SOT-23



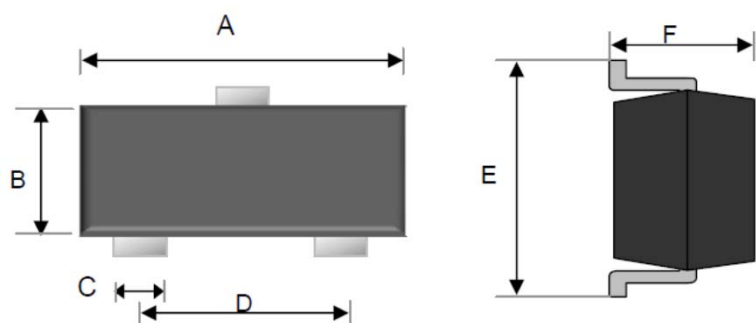
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.550 REF		0.022 REF	
H	0.1 REF		0.004 REF	

SOT-323



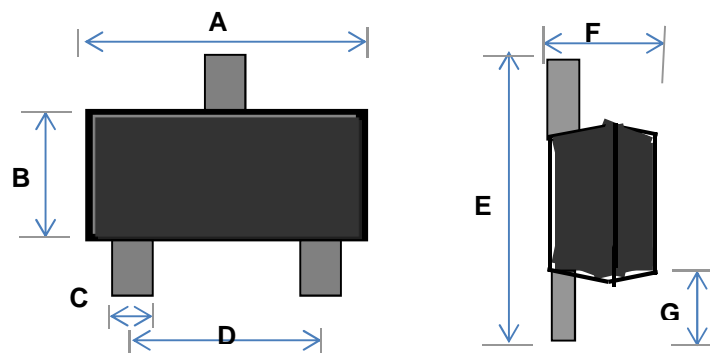
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.80	2.20	0.07	0.09
B	1.15	1.35	0.05	0.05
C	0.15	0.40	0.01	0.02
D	1.20	1.40	0.05	0.06
E	2.00	2.45	0.08	0.10
F	0.80	1.10	0.03	0.04

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	0.045	0.049
B	0.75	0.85	0.030	0.033
C	0.17	0.27	0.007	0.011
D	0.80 TYP.		0.031 TYP.	
E	1.15	1.25	0.045	0.049
F	0.43	0.55	0.017	0.022
G	0.15	0.25	0.006	0.010