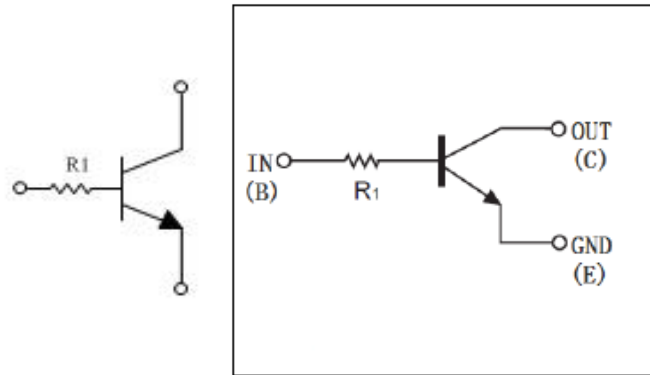


Small Signal Product

NPN Small Signal Transistor

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.
- Packing code with suffix "G" means green compound (halogen-free)



Equivalent Circuit

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)				
PARAMETER	SYMBOL	VALUE		UNIT
		TM	TSA	
Power Dissipation	P _D	100	300	mW
Collector-Base Voltage	V _{CB0}	50		V
Collector-Emitter Voltage	V _{CEO}	50		V
Emitter-Base Voltage	V _{EBO}	5		V
Collector Current-Continuous	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

PARAMETER	SYMBOL	MIN	TYP	MAX	CONDITION	UNIT
Collector-Base Breakdown Voltage	V _{(BR)CBO}	50			I _C =50μA, 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 _E =50μA, 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
DC Current Gain	h _{FE}	100	300	600	V _{CE} =5V, I _C =1mA	
Collector-Emitter Saturation Voltage	V _{CE(sat)}			0.3	I _C =10mA, I _B =1mA	V
Transition Frequency	f _T	250			V _{CE} =10V, I _E = -5mA, f=100MHz	MHz
Input Resistor	R ₁	7	10	13		KΩ

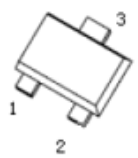

Small Signal Product

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
DTC114TM	RM	G	SOT-723	8K / 7" Reel
DTC114TSA	A3		TO-92S	3K / Box (Ammo)
	B3			10K / Box (Bulk)

*: Optional available

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
DTC114TM RMG	DTC114TM	RM	G	Green compound

PIN CONNENCTIONS AND MARKING

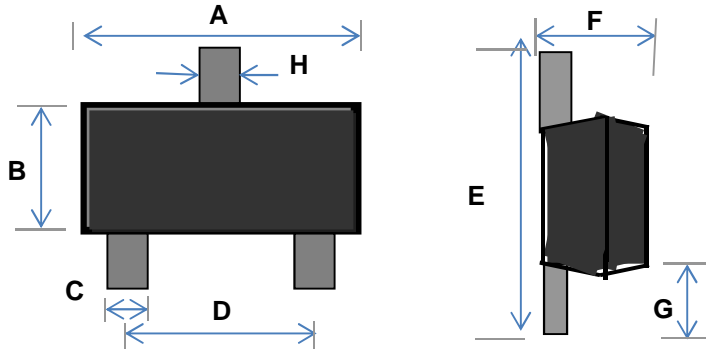
DTC114TM	SOT-723	DTC114TSA	TO-92S
 <p>MARKING:04</p>	<p>1. IN 2. GND 3. OUT</p>	<p>MARKING: C114</p> <p>MARKING (HF): C114 T-041</p> 	<p>1. GND 2. OUT 3. IN</p>

Not Recommended

Small Signal Product

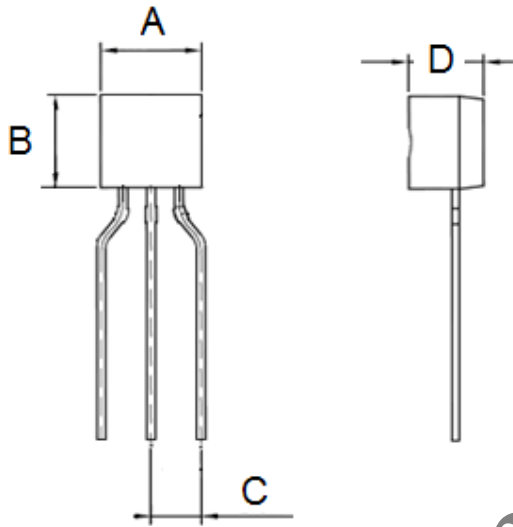
PACKAGE OUTLINE DIMENSION

SOT-723



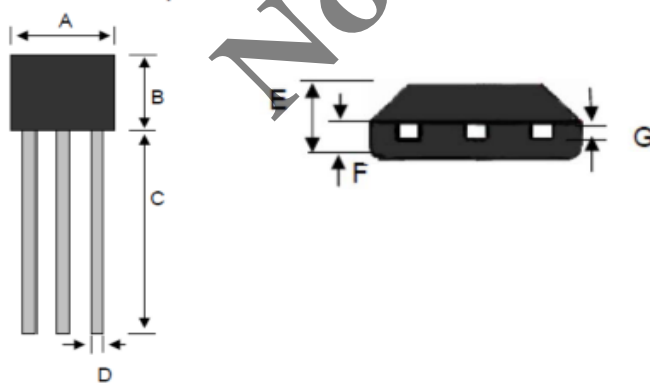
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.15	1.25	0.045	0.049
B	0.75	0.85	0.030	0.033
C	0.15	0.27	0.006	0.011
D	0.80 TYP.		0.031 TYP.	
E	1.15	1.25	0.045	0.049
F	0.43	0.55	0.017	0.022
G	0.15	0.25	0.006	0.010
H	0.25	0.37	0.010	0.015

TO-92S (Ammo)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.90	4.10	0.154	0.161
B	3.05	3.25	0.120	0.128
C	2.20	2.80	0.087	0.110
D	1.42	1.62	0.056	0.064

TO-92S (Bulk)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.90	4.10	0.154	0.161
B	3.05	3.25	0.120	0.128
C	15.10	15.50	0.594	0.610
D	0.35	0.48	0.014	0.019
E	1.42	1.62	0.056	0.064
F	0.66	0.86	0.026	0.034
G	0.36	0.51	0.014	0.020

Not Recommended

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