

Small Signal Product

PNP Small Signal Transistor

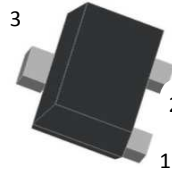
FEATURES

- 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
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code



SOT523/SOT323/SOT23

1. IN 2.GUD 3.OUT



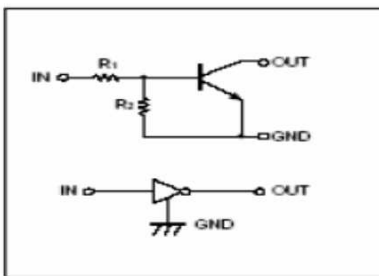
SOT-723

1. BASE
2. EMITTER
3. COLLECTOR



TO92S

1.GUD 2.OUT 3.IN



Equivalent Circuit

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)						
PARAMETER	SYMBOL	VALUE				UNIT
		ZM	ZE	ZUA / ZCA	ZSA	
Power Dissipation	PD	100	150	200	300	mW
Supply Voltage	V _{CC}	-50				V
Input Voltage	V _{IN}	-5 ~ +30				V
Output Current	I _O	100				mA
	I _{C(MAX)}	100				
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to + 150				°C

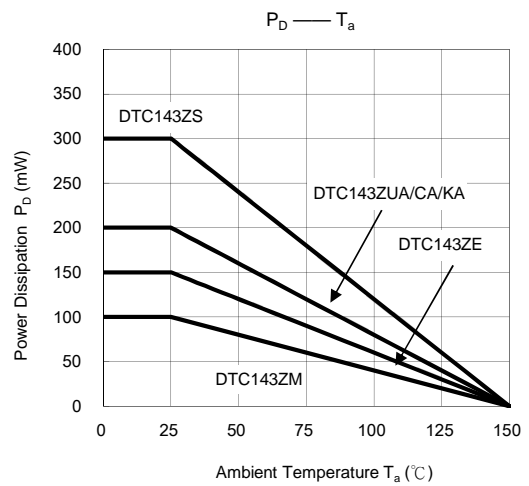
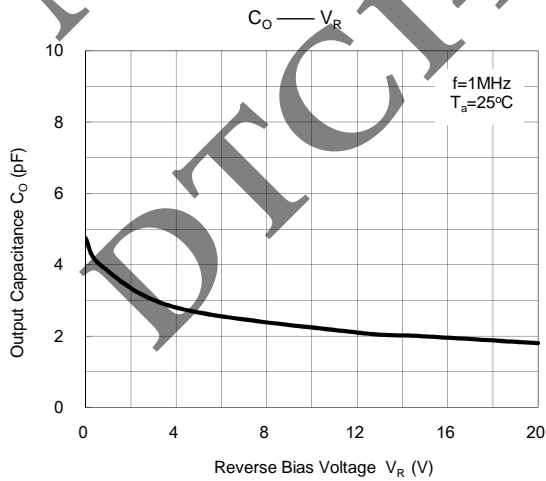
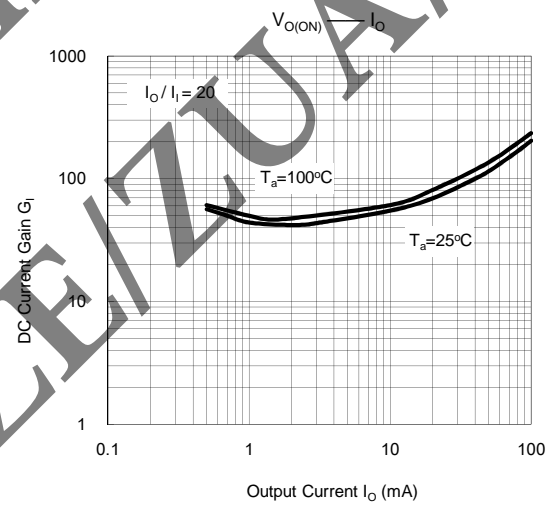
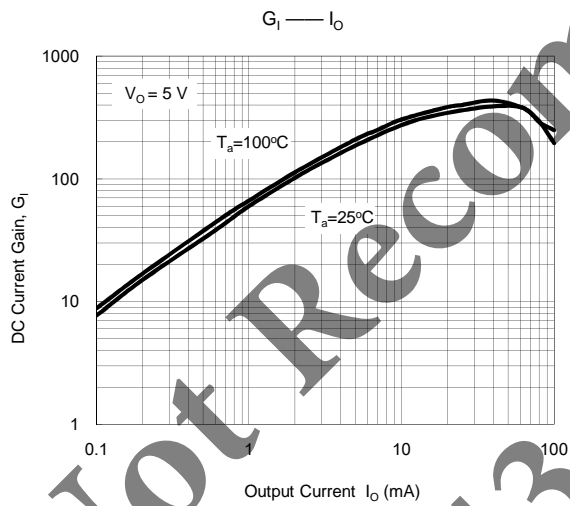
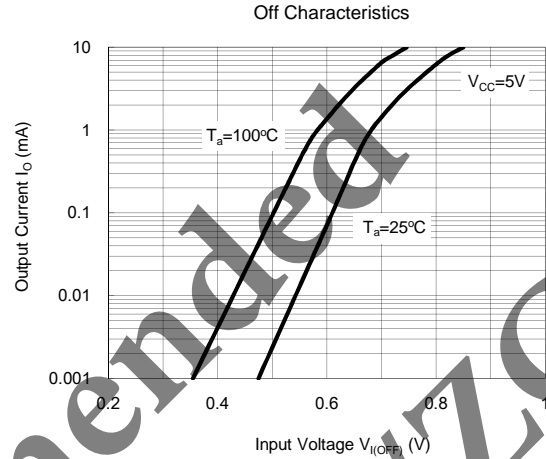
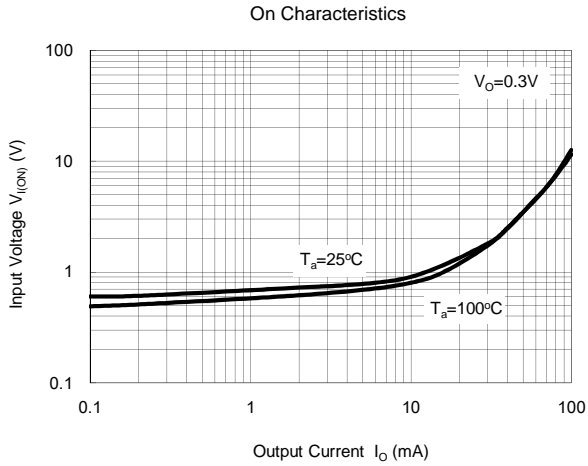
Notes: Valid provided that electrodes are kept at ambient temperature

PARAMETER	SYMBOL	MIN	TYP	MAX	CONDITION	UNIT
Input Voltage	V _{I(on)}			1.3	V _O = 0.3 V , I _O = 5 mA	V
	V _{I(off)}	0.5			V _{CC} = 5 V , I _O = 100 μA	
Output Voltage	V _{O(on)}		0.1	0.3	I _O / I _I = 5 mA / 0.25 mA	V
Input Current	I _I			1.8	V _I = 5 V	mA
Output Current	I _{O (off)}			0.5	V _{CC} = 50 V , V _I = 0	μA
DC Current Gain	G _I	80			V _O = 5 V , I _O = -10 mA	
Input Resistance	R ₁	3.29	4.7	6.11		KΩ
Resistance Ratio	R ₂ /R ₁	8	10	12		
Transition Frequency	f _T		250		V _{CE} =10V, I _E =-5 mA, f=100 MHz	MHz

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RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)



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ORDERING INFORMATION						
PART NO.	MANUFACTURE CODE (Note1)	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING	MARKING
DTC143 ZM		RM	G	SOT-723	8K / 7" Reel	E23
DTC143 ZE		RN	G	SOT-523	3K / 7" Reel	E23
DTC143 ZUA		RV	G	SOT-323	3K / 7" Reel	E23
DTC143 ZCA		RU	G	SOT-23	3K / 7" Reel	E23
DTC143 ZSA		A3	G	TO-92S	3K / Box (Ammo)	C143 Z031

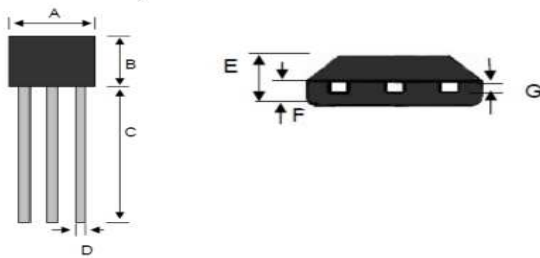
Note1: Manufacture special control, if empty means no special control requirement.

EXAMPLE					
PREFERRED P/N	PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
DTC143 ZM RMG	DTC143 ZM		RM	G	Green compound
DTC143 ZM-M0 RMG	DTC143 ZM	M0	RM	G	Green compound

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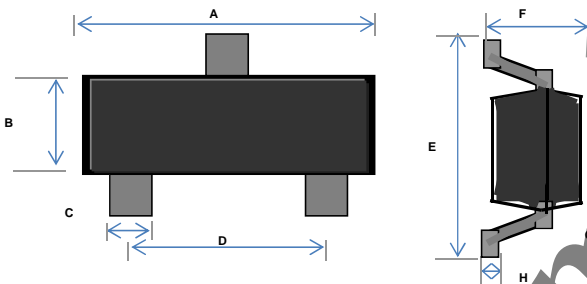
DIMENSIONS

TO-92S



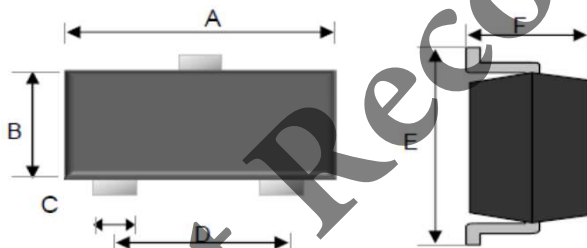
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.90	4.10	0.15	0.16
B	3.05	3.25	0.12	0.13
C	15.10	15.50	0.59	0.61
D	0.35	0.48	0.01	0.02
E	1.42	1.62	0.06	0.06
F	0.66	0.86	0.03	0.03
G	0.66	0.51	0.01	0.02

SOT-23



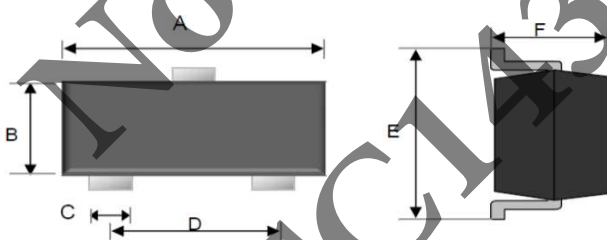
DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	2.70	3.10	0.106	0.122
B	1.10	1.50	0.043	0.059
C	0.30	0.51	0.012	0.020
D	1.78	2.04	0.070	0.080
E	2.10	2.64	0.083	0.104
F	0.89	1.30	0.035	0.051
G	0.55 REF		0.022 REF	
H	0.1 REF		0.004 REF	

SOT-323



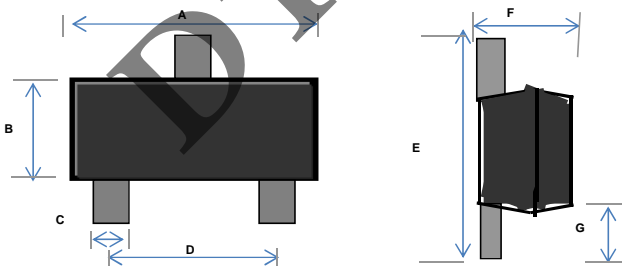
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.80	2.20	0.07	0.09
B	1.15	1.35	0.05	0.05
C	0.15	0.40	0.01	0.02
D	1.20	1.40	0.05	0.06
E	2.00	2.45	0.08	0.10
F	0.80	1.10	0.03	0.04

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	0.15	0.27	0.01	0.01
D	0.8 TYP.		0.031 TYP.	
E	1.15	1.25	0.05	0.05
F	0.43	0.55	0.02	0.02
G	0.15	0.25	0.01	0.01
H	0.25	0.37	0.01	0.01

Small Signal Product

Not Recommended
DTC143 ZE/ZUA/ZCA

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