



**WBFBP-03B Plastic-Encapsulate Transistors**

**TSA143ENND03 TRANSISTOR**

**DESCRIPTION**

PNP Digital Transistor

**FEATURES**

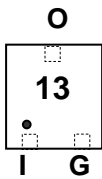
- 1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- 2) The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- 3) Only the on/off conditions need to be set for operation, making device design easy.

**APPLICATION**

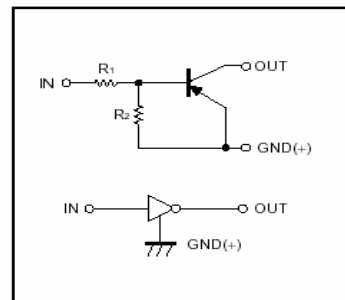
PNP Digital Transistor

For portable equipment:(i.e. Mobile phone,MP3, MD,CD-ROM, DVD-ROM, Note book PC, etc.)

**MARKING: 13**



**equivalent circuit**



**Absolute maximum ratings(Ta=25°C)**

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	-50	V
Input voltage	V <sub>IN</sub>	-30~10	V
Output current	I <sub>O</sub>	-100	mA
	I <sub>C(MAX)</sub>	-100	
Power dissipation	P <sub>d</sub>	150	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~150	°C

**Electrical characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Input voltage	V <sub>I(off)</sub>			-0.5	V	V <sub>CC</sub> =-5V, I <sub>O</sub> =-100μA
	V <sub>I(on)</sub>	-3				V <sub>O</sub> =-0.3V, I <sub>O</sub> =-20 mA
Output voltage	V <sub>O(on)</sub>			-0.3	V	I <sub>O</sub> /I <sub>I</sub> =-10mA/-0.5mA
Input current	I <sub>I</sub>			-1.8	mA	V <sub>I</sub> =-5V
Output current	I <sub>O(off)</sub>			-0.5	μA	V <sub>CC</sub> =-50V, V <sub>I</sub> =0
DC current gain	G <sub>I</sub>	30				V <sub>O</sub> =-5V, I <sub>O</sub> =-10mA
Input resistance	R <sub>1</sub>	3.29	4.7	6.11	KΩ	
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>	0.8	1	1.2		
Transition frequency	f <sub>T</sub>		250		MHz	V <sub>CE</sub> =-10V, I <sub>E</sub> =5mA, f=100MHz

