

# WBFBP-03B Plastic-Encapsulate Transistors

## TSC114YNND03 TRANSISTOR

### DESCRIPTION

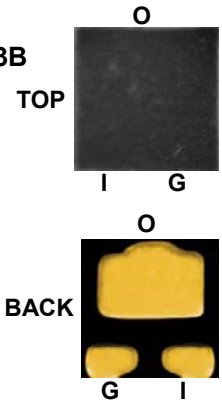
NPN Digital Transistor

### FEATURES

- 1) Built-in bias resistors enable the configuration of an inverter without connecting external input resistors.
- 2) The bias resistors consist of thin-film resistors with a ratio to allow negative biasing of the input to almost -6V.
- 3) Only the on/off conditions need to be set for operation, making device design easy.

### WBFBP-03B

(1.2×1.2×0.5)  
unit: mm

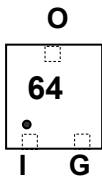


### APPLICATION

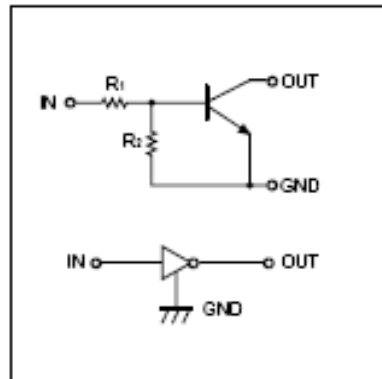
NPN Digital Transistor

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

### MARKING: 64



### equivalent circuit



### Absolute maximum ratings(Ta=25°C)

Parameter	Symbol	Value	Unit
Supply voltage	V <sub>CC</sub>	50	V
Input voltage	V <sub>IN</sub>	-6~+40	V
Output current	I <sub>O</sub>	70	mA
	I <sub>C(Max.)</sub>	100	mA
Power dissipation	P <sub>C</sub>	150	mW
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 ~ +15	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Input voltage	V <sub>I(off)</sub>			0.3	V	V <sub>CC</sub> =5V, I <sub>O</sub> =100μA
	V <sub>I(on)</sub>	1.4				V <sub>O</sub> =0.3V, I <sub>O</sub> =1mA
Output voltage	V <sub>O(on)</sub>			0.3	V	I <sub>O</sub> /I <sub>I</sub> =5mA/0.25mA
Input current	I <sub>I</sub>			0.88	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>	68				V <sub>O</sub> =5V, I <sub>O</sub> =5mA
Input resistance	R <sub>1</sub>	7	10	13	KΩ	
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>	3.7	4.7	5.7		
Transition frequency	f <sub>T</sub>		250		MHz	V <sub>O</sub> =10V, I <sub>O</sub> =-5mA, f=100MHz