

# WBFBP-03B Plastic-Encapsulate Transistors

## TSC114ENND03 TRANSISTOR

### DESCRIPTION

NPN Digital Transistor

### FEATURES

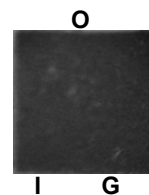
- 1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit)
- 2) The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost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

### WBFBP-03B

(1.2×1.2×0.5)

unit: mm

TOP



1. IN

2. GND

3. OUT

BACK

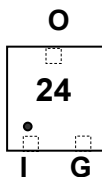


### APPLICATION

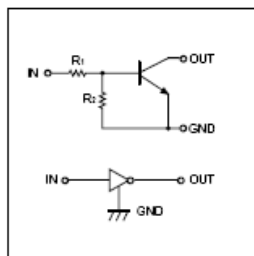
NPN Digital Transistor

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

### MARKING: 24



### equivalent circuit



### Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	$V_{CC}$	50	V
Input voltage	$V_{IN}$	-10~40	V
Output current	$I_O$	50	mA
	$I_{C(MAX)}$	100	
Power dissipation	$P_d$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55~150	°C

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

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$	0.5			V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$			3		$V_O=0.3V, I_O=10mA$
Output voltage	$V_{O(on)}$			0.3	V	$I_O/I_I=10mA/0.5mA$
Input current	$I_I$			0.88	mA	$V_I=5V$
Output current	$I_{O(off)}$			0.5	$\mu A$	$V_{CC}=50V, V_I=0$
DC current gain	$G_I$	30				$V_O=5V, I_O=5mA$
Input resistance	$R_I$	7	10	13	K $\Omega$	
Resistance ratio	$R_2/R_1$	0.8	1	1.2		
Transition frequency	$f_T$		250		MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$