



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

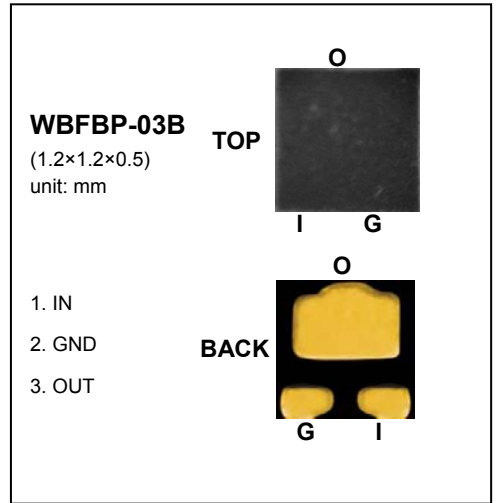
**TSA124ENND03 TRANSISTOR**

**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

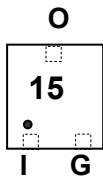


**APPLICATION**

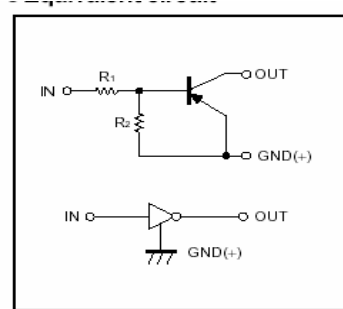
PNP Digital Transistor

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

**MARKING: 15**



**equivalent circuit**



**Absolute maximum ratings(Ta=25°C)**

Parameter	Symbol	Value	Unit
Supply voltage	$V_{CC}$	-50	V
Input voltage	$V_{IN}$	-40~10	V
Output current	$I_O$	-30	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		$V_O=-0.2V, I_O=-5mA$
Output voltage	$V_{O(on)}$			-0.3	V	$I_O/I_I=-10mA/-0.5mA$
Input current	$I_I$			-0.36	mA	$V_I=-5V$
Output current	$I_{O(off)}$			-0.5	$\mu A$	$V_{CC}=-50V, V_I=0$
DC current gain	$G_I$	56				$V_O=-5V, I_O=-5mA$
Input resistance	$R_1$	15.4	22	28.6	K $\Omega$	
Resistance ratio	$R_2/R_1$	0.8	1	1.2		
Transition frequency	$f_T$		250		MHz	$V_{CE}=-10V, I_E=5mA, f=100MHz$